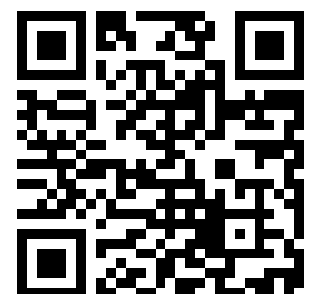

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Shadows and Straws

ONCE UPON A TIME, and not so long ago, we handed some hand-written pages to a typist, in a strange town. In the writing on those pages there appeared the words, "The American Institute of Architects." Who can fathom the mood of her who copied them down upon the typewriter? Did she echo a subconscious reflection of her daily pilgrimage among the streets of a great city, or was she, on the contrary, the medium by which the future sends us warning? We cannot tell, and must leave the answer to those who are better versed in the psychology of the typist mind. What she had written in place of the phrase to which we have alluded, was this: "America destitute of Architects."

TO SECRETARY McADOO the country owes the Treasury Annex, in Washington, a building which, both in location and design, is a worthy beginning of that portion of the Plan of 1901 which calls for a series of administrative buildings facing Lafayette Square. Sketch-plans made for the entire frontage show the building now under construction as one-third of the total structure. Deliberately, and with conviction, Secretary McAdoo built according to the Plan of Washington, having in his mind, as he himself expressed it, "the adoption of a logical, continuous building program, not only for the adequate housing of all Departments, but also the harmonious development of Washington." Again, Secretary McAdoo rescued from private ownership more than half of the H Street park frontage between Vermont Avenue and Sixteenth Street; and he turned a cheap-looking brick hotel into a stone office building. If the

achievement here fell below the standard, at least the fault was not the Secretary's. Everything he did was praiseworthy. In the third place, Secretary McAdoo gave to the country a subsidiary silver coinage, designed by artists of high standing and carried through the Mint in a manner that marks vast improvement over former days. To this matter both the Secretary and the Director of the Mint gave personal attention through all the annoying and perplexing months that marked the preparation of the coins—months during which artistic designs were adapted to technical requirements without engendering prohibitive friction. There is a fourth service for which the country owes Secretary McAdoo its continued and heartfelt thanks—he did not build the power-house which Congress authorized. From that struggle he, the apparent victor, emerged a changed and converted official. Whereas he was blind to esthetic values, he came to see how deep and genuine and reasonable was the interest of the people of the United States in the proper development of their capital. From a persecutor of the saints he became their chief apostle. Moreover, he had other large projects in mind, notably one for the simplification of the currency issues and raising the artistic standard of Government notes and bonds, a matter in which Assistant Secretary Moyle is so deeply interested that, doubtless, it will be worked out. Still another contribution to the embellishment of Washington, for which Secretary McAdoo is to be credited, is the statue of Alexander Hamilton, by Fraser, which is soon to adorn the south terrace of the Treasury Department—a genuine work of art, the models promise. It is devoutly

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to be hoped that Secretary Glass will take up the good work where Mr. McAdoo has laid it down and will go on from grace to glory.

BY A TIE VOTE, the Committee on Public Buildings and Grounds of the House of Representatives decided to report no public building bill at this session of Congress. It is in this Committee that appropriations for public buildings have their initiation, although the precept of our constitution governing the right of the House to propose appropriations is often honored in the breach as well as in the observance. In this particular instance, the significance of the tie vote may be left to those who are wise in the political ways of congressmen.

To many it will doubtless appear regrettable that, at a moment like the present, when public building expenditures might well serve to take up some of the slack in building depression, the Government is not to appropriate money for this purpose. It should be said, however, that even though a public building bill did pass the present session of Congress, it would no doubt be several years before the money could be spent, so clumsy is the system. In the meantime it is to be hoped that Congress will authorize the completion of the post-office buildings still unbuilt by the Treasury Department, for which appropriations have already been made, but for which increases in limit, in many cases, will be necessary.

BUT THERE ARE FURTHER considerations of the gravest moment in this matter; indeed, it were almost better that the Government never again build a public building for the conduct of its postal business than to have the country suffer longer under the extravagance and injustice of methods at which any sensible citizen would point with derision, if he knew the facts. It is generally thought that the "pork-barrel" bills, of which Rivers and Harbors, and Public Buildings, are the two notable examples, are singular and pertinent evidence of the incompetence and untrustworthiness of Congress. In a measure this is true. Congress cannot be excused for voting appropriations founded on a scheme of political jobbery. But as to condonement—that's another matter.

Almost without exception, when a "pork-barrel" bill is introduced there comes a great

hue and cry from all over the land—that is, from everywhere except the towns or localities which are to derive a benefit from the bill. They—although there have been rare exceptions—are as silent as the grave. The desert wastes of the Sahara are not more soundless than the constituencies of the congressman who is made responsible for an item in a "pork-barrel" bill. Failure to get the money may mean failure of reelection. A congressman's services are judged a good deal by what he "does" for his district. It is a colossal defect in our system of government. But it is a defect which is popular and not special. It ramifies everywhere, wherever the "savagery of interests" continues to ravage government for selfish ends.

HOW CAN WE PROVIDE an intelligent system for appropriating money for public buildings? The question has never been answered. It is not easy to answer, so long as we are bound to the obsolete legislative machine which custom and committee rule have fastened on Congress, and thus on the nation. Congress has never made any real effort to correct its worn-out system, and the people have never demanded that it be corrected. Yet in so far as finding money for public buildings is concerned, the system is about as justifiable as the ancient Russian system of laying out a railway system by drawing a straight line between the main towns to be connected, and then collecting from the intermediate towns for each deviation. There is nothing more defective in our whole top-heavy, unrepresentative, worn-out system of legislative procedure than this signal inability to provide the right kinds of buildings for the proper conduct of the business of the people. The whole method has, with few exceptions, been prostituted to the ignoble ends of local greed and selfishness, generally inspired by a real-estate speculative opportunity and fostered by the local press and the local political boss. It is in such a clique that the idea of getting money from Congress for a public building far too often originates, and we have only to suggest the back room of a saloon to complete the picture.

The resulting injustice is not confined to the extravagance which, however much it has been curbed by the present administration, still persists for reasons due to the frequent

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unwisdom of spending any money at all. The injustice falls heavily on the worthy cases—on the towns and cities where better postal facilities are badly needed. It falls on them through lack, and frequently through the inadequacy, of an appropriation, as the history of enlargements and additions all too clearly shows. In other cases, the buildings are far too large; in others still, the building is not justified. No method governs in any case, and, despite the excellent management under Secretary McAdoo, we are as far from solving the problem as we ever were. Something has been done to frustrate the waste of the past; nothing has been done to provide that needed buildings shall go ahead promptly, be planned well for both present and future, and respond to the common sense premises of a building undertaking.

THERE ARE TWO FACTORS upon which the complete solution depends: First, the appropriation of money for specific buildings must be taken away from Congress. As long as an itemized public building bill is reported by a committee, selections will continue to rest upon political considerations. The right to vote money cannot be taken away, but the public should demand that the right to designate what buildings shall be built be surrendered by Congress. Why not, after a study of the postal system as a business, adopt the principle that a certain sum of money should be set aside each year for building purposes? At present the postal system is not treated as a business, for the Government's investment in post-office buildings plays no part in the Post Office Department's balance-sheet. The items of new buildings, alterations, and repairs are carried on the general ledger of the Treasury Department, if you please! If they were carried on the books of the Post Office Department, with proper charges for deterioration and cost of upkeep, business principles could dictate what sum of money annually could be invested in new buildings, alterations, and enlargements. But it is conceivable that an even larger sum might be invested than would be justified in an ordinary business. The post office exists as a convenience for which the public is willing to pay; inadequate buildings are today a conspicuous indictment of the unbusinesslike method that governs the administration of this depart-

ment in respect to buildings. It appears to be the fault of no one, and thus, the fault of every one.

The second consideration has to do with the time to build. Governmental undertakings of this kind should be deferred, as far as possible, to times of building depression. By such a method some kind of balance could be maintained, both as to workmen and materials. Under a modern system, conforming to present-day needs, the Government would now be spending large sums of money on buildings, as a means of taking up the slack in private work. As it is, the appropriations for buildings now available were made so long ago that there is now no relation between requirements and costs. The former have changed as much as have the latter. It is lamentable, but true, that the last appropriations now available in the office of the Supervising Architect were made in 1913 and before that year!

There is urgently needed a department of public works, engaged in a continuous study of the nation's public building problem and formulating a program that can always be ready to be put into execution the very moment there comes a depression in the general building industry. The State of Pennsylvania has created an Emergency Public Work Fund, to be used in promoting this kind of a method of conducting public expenditures within that commonwealth, and other states are being led to a consideration of the value of such a plan.

The Committee on Public Works of the Institute could render a great service by formulating a method by which the public building procedure of this country might be placed upon a logical basis. Given the basis, the fight can be made. At present, public effort is largely directed to an attack on the "pork-barrel" system, while the constructive program languishes. With a new session of Congress, and a new committee personnel looming, the moment is opportune.

A THIRD CONSIDERATION still remains. Pork, and the political juggling it breeds, has operated to obscure the public-building needs of the Government itself at Washington. As no crumb of glory falls to the profit of a congressman when money is spent in Washington, the needs of the Government in respect to quarters for its business have commanded neither respect

nor attention. We were spending nearly one million dollars a year in Washington for rentals when the war came. Our departments were strung all over the city, in every conceivable kind of makeshift. Some had been able to get better quarters by securing congressional sanction for a ten-year, ten per cent building, built by private interests and rented to the departments—a form of plundering the public treasury that has already been aired in these columns.

Thus, when war did come, Washington was smothered beyond belief. Congested as it was, there was no relief except in a series of temporary structures, and today the city is strewn with millions of dollars worth of cheap buildings. They occupy the best sites in the city. The Lincoln Memorial is now faced with a gigantic structure built of reinforced concrete, the demolition of which few of us will probably live to see. Even if it be true that much of this could not have been avoided, it is equally true that the years and years of neglect, during which the Government's needs expanded with geometrical progression, produced a congestion immediately on the outbreak of war, so acute that there was no time in which to handle the problem in an orderly manner. For the present condition of Washington, many Congresses

are to blame. Each one has passed along an increasing rental bill, and let it go at that.

BUT THE PRESENT CONGRESS has before it the report of the Public Buildings Commission of 1916, created by Congress soon after this Journal had published that extraordinary story of the rented-building situation in Washington. The report deals with the question in an exhaustive manner. Its contents have been summarized in the Journal. It prescribes an orderly method of procedure for the rehabilitation of our national business conducted at the capital. As a sober, serious, painstaking study, it deserves conscientious consideration. From this Congress, charged with war and post-war problems, perhaps nothing is to be expected. But the nation should demand its consideration by the Congress which will sit anew on the 4th of March next. In no political platform of which we have ever heard has there been any declaration of policy regarding public buildings, and yet this is one of the most important items with which Government must deal. Until we have, as a people, learned to demand an intelligent and just treatment of this question, our form of government can scarcely be held up to the admiration of either monarchies or soviets.

Post-War Committee on Architectural Practice

Announcement of Preliminary Program for the Inquiry into the Status of the Architect

SINCE the last issue of the Journal there have been two meetings of the Executive Council of the Committee. The first of these dealt with questions affecting the preliminary organization and with the program to be put forward in beginning its work. It was agreed at the first meeting that each member of the Council would frame a syllabus to be used as the basis of a preliminary questionnaire.

At the second meeting these three syllabi were discussed at great length, and it was determined to mold them into one document which should contain a foreword, a hypothesis, and a questionnaire. An outline of this document is published elsewhere in this issue, and when

completed will be distributed, as far as possible, to every practising architect in the United States.

In putting this document forward the Committee lays not the slightest claim to its infallibility in any respect. It recognizes the need of a method of procedure and feels it its duty to suggest a certain outline. Others will see the wisdom of suggesting other inquiries, and it is by no means expected that this questionnaire will suffice. When the results of the discussion it provokes begin to be analyzed, a second stage of the inquiry will have been reached, and the Committee will then be able to determine certain results, based on the analysis of facts and opinions gathered. Through the agency of the

POST-WAR COMMITTEE ON ARCHITECTURAL PRACTICE

Journal, these results will be distributed and will form the basis of the progressive program.

The architects of the United States are asked to give their whole-hearted coöperation to this work. It is their problem, affecting not only the esthetic but the remunerative side of their profession. The problem cannot be solved by a committee. It can be solved only through the slow process of gathering facts and opinions; but these opinions must be based upon actual experiences and not upon surmises. Where an architect has not the facts at hand, or has not had the particular kind of experience which will enable him to offer an intelligent opinion, he must, because of his own vital interest, make it a point to obtain the facts by questioning whomsoever he will. There are few intelligent men of experience in any profession or calling who have not very definite opinions, based upon actual experience, in respect to some phase of a building operation. It is the intention, as the program develops, to enlarge this Committee, perhaps by the creation of numerous sub-committees, and to invite participation in its work by all the trades and professions allied with the building industry. It is particularly hoped so to extend the field of this inquiry as to include a representation of all those groups which follow a profession.

The Committee asks, then, that you, the reader, join in this, the most important movement ever started by architects in this country. It is not to be a class movement. It is not confined to any organization; its results are to be honestly appraised, and with as great ability as we may be able to put at its command. What we do ask at the outset is honesty of purpose, fearless candor in expression, and self-effacement. No personalities must be allowed to creep in—no matter what wrongs we may believe ourselves to have suffered at the hands of others, we are now to turn the searchlight on ourselves—are *we* right?

Architecture has always been ranked as a profession. The professional idea has been held to be a finer basis for a vocation than the business objective. This opinion has given rise to a misunderstanding, and set up an apparent cross-purpose, so that the architect and the business man do not always understand each other. Yet, professionalism and business are not incompatible, for the professional idea may

influence the conduct of any business, or commerce, or vocation, just as it influences those callings which are called professional. Professionalism is the attitude of the worker to his work. The architect, as a professional man, seeks to render service which shall be measured in building quality. He recognizes in his building certain qualities which are too infrequently unrecognized by the lay mind. But in any measure of building quality the appearance of the building must be included. As no structure can be said to be good which does not thoroughly answer the purpose for which it was designed, so no structure, however thoroughly it does answer that purpose, can be called good, unless it also is good to look upon.

There are thousands who recognize this full measure of building quality. There are more who do not. The reason for their failure may or may not lie in the attitude they take to their business, but until we attain, as a nation, a degree of culture that enables men intelligently to appraise the real quality of a structure, the appreciation of architecture will always be more or less obscure. Toward the attainment of such a culture, is it not more important that the professional idea be stimulated, and nourished, and strengthened, rather than that it should give way and be lost in the unprofessional scramble? Since the days when all craftsmanship was based upon the professional idea, we have seen most of the arts and all of the crafts absorbed by centralized industry. Architecture, the all-inclusive art, has resisted this process of absorption, and yet when we look upon our cities and see the tremendous volume of buildings built only to sell, we must recognize the fact that centralized industry has made a great inroad on the practice of architecture.

Industry, by the very law of its being, must make things to sell at a profit; art and craftsmanship, by the very law of their being, must make things honestly and beautiful. They must derive a remuneration for their labor, but they cannot compete with the object made only to sell. From the difference in these two objectives arises the present-day conflict. Therefore, until architects are willing sincerely to measure and to evaluate the actual facts surrounding the building industry as carried on in the modern world in which we live, they must remain ignorant of the exact position which they occupy and

the exact direction in which their profession is going. A recognition and understanding of these conditions will enable architects to increase the value of their service and realize, in a greater degree, the ideals toward which they are striving. It is the necessity for finding out these facts that has led to the creation of the Post-War Committee, which is the instrument now offered to the profession for performing this service. The value of the service to be rendered by this instrument is dependent upon the degree with which architects coöperate to use it.

This is not solely an American condition—it is one that is world-wide. Almost without exception, the architectural societies throughout the world are engaged upon an inquiry to deter-

mine the status of the profession. Therefore, it is to the advantage of every architect, in every land, that the results obtained by this universal discussion be shared by all, and the Post-War Committee intends, so far as it is practicable, to arrange that the architects of America shall be informed of the results of this inquiry as made in all other countries, and that all other countries shall have the benefit of the work done in the United States. The Secretary of the Post-War Committee is to leave for Europe very shortly for the purpose, among other things, of endeavoring to promote a more intimate relationship with other architectural societies, to the end that this whole movement may be given an international scope and be intimately coördinated. (For Programme Outline, see page 25.)

The Competition for the Federal Buildings, 1792-1793

By FISKE KIMBALL and WELLS BENNETT

THE competition for the National Capitol and the President's House in Washington in 1792-93 was the first important architectural competition in the United States. Before that time, indeed, there had been but few competitions here for buildings of any sort. In general, the difficulty had been, not to choose an architect or a design from among many, but to secure any competent designer or adequate design in advance at all. Only two earlier instances are recorded in which rival designs were offered. In the case of the old Pennsylvania State House—Independence Hall—there had been what we should now regard as an unprofessional competition as early as 1732. There, after a design by Andrew Hamilton, the gifted chairman of the building committee, had already been adopted, other men, including Dr. John Kearsley, the designer of Christ Church and also a member of the committee, submitted designs in opposition. In the case of the Philadelphia Library, in 1789, there had been a formal competition advertised, with a prize of a share of stock in the Library Company, the winning of which was the first step in the architectural career of William Thornton. These modest forerunners were insignificant compared with the competition now instituted by the new Federal Government for the Capitol and

the residence of the chief executive of a whole nation, a competition in which the best talent of the entire country took part.

The competition holds an interest for us in a number of quite distinct ways. One interest is through the light it throws on our competitions in general; the origins of our methods of conducting them; the misunderstanding by public authorities; the occasional breaches of professional etiquette, and the wasted efforts and charges of plagiarism. We gain an insight into the different conditions of work at the outset of our national life and at the same time see how modern conditions have grown out of them. There is interest of a different sort in the supreme effort made by the competitors to solve the then novel problems created by the adoption of a republican form of government for a great modern nation. Foreign examples offered little precedent for the plans of deliberative halls, or for the balancing of legislative, executive, or judicial departments. The two state capitols already erected in America, and the Federal Hall prepared for Congress in New York in 1789, although suggestive, presented less complex problems than the buildings at the permanent seat of the National Government, which have since influenced all our governmental buildings. The competition for these has an

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793

interest also as being the decisive struggle between the builders and amateurs on the one hand, who, together, had so far dominated architecture in America, and the professional architects on the other hand—hitherto lacking—who henceforth assumed the leading role. Finally there is the interest which the competitive drawings and related documents have in revealing to us, freshly or in greater fulness, the personalities of a great number of early designers from all classes and from every part of the country. Some of these men are already honored as the founders of our national architecture; others, now really studied for the first time, prove to have been of unsuspected importance. Even the minor men were influential in their own local spheres, and the data furnished by their appearance on the national stage leads to the establishment of new reputations.

The evidence for a full knowledge of the competition and the competitors is widely scattered. Of the competitive designs themselves, the greater number—some of which had remained in the hands of the commissioners of the Federal District—ultimately came into possession of Benjamin H. Latrobe, the Surveyor of Public Buildings from 1803 to 1811. A folio scrapbook containing many of them was presented in 1865 by a son, John H. B. Latrobe, to the Maryland Historical Society, in Baltimore¹, which still preserves it. It includes designs for the President's House by James Hoban, Jacob Small, James Diamond, and Andrew Mayfield Carshore, and one by Thomas Jefferson signed with the pseudonymous initials "A. Z." For the Capitol it includes competitive designs by Samuel Dobie, Robert G. Lanphier, Samuel McIntire, Small, Diamond, Charles Wintersmith, Carshore, Philip Hart, and Abram Faw, with one anonymous design, and two post-competitive drawings by Stephen Hallet. A long series of drawings by Hallet, including his competitive designs, was returned in 1871 by B. H. Latrobe, Jr., to Edward Clark, then architect of the Capitol², and were deposited the following year in the Library of Congress³, where they are now kept in the Division of

Prints. These constitute, with the addition of Hoban's plan for the President's House in the Coolidge collection in Boston, all the actual competitive drawings of which the whereabouts are known to the present writers. B. H. Latrobe, Jr., also states, in a manuscript prepared in 1873 or 1874¹, that certain of the competitive drawings which had been in his father's possession "were some years ago placed in the Patent Office by his sons as examples of the state of the art at the period referred to, and they are probably still preserved for the benefit of the antiquarian inquirer." A vague memory of some drawings which might possibly be these exists in the draughting department of the Patent Office, but the supposed drawings themselves are not forthcoming there. Of the museum collections formerly at the Patent Office, some have been dispersed, others transferred to the Smithsonian Institution at various times, the earliest group in 1858. Fires at the Smithsonian in 1865 and in the model room of the Patent Office in 1877 have also taken their toll. In any case, a thorough search at both places has failed to discover the drawings in question.

The designs known to have been submitted, and not accounted for in the accessible collections above referred to, are those of Hallet and of John Collins for the President's House, and those of William Thornton, George Turner, Samuel Blodget, Jr., Leonard Harbaugh, and Collen Williamson for the Capitol. Of these drawings, both sets of Turner's were returned to him by the Commissioners on repeated requests,² and Thornton's were apparently withdrawn by him in 1795 and 1796, when, while a commissioner, he furnished the revised plans—adapted to changes which had been made in execution—which are now preserved with Hallet's and Latrobe's drawings in the Library of Congress.³ Hallet, Blodget, Harbaugh, and Williamson were all employed in various responsible capacities in the Federal city after the competition, and were therefore precisely

¹In the Gamble Latrobe collection. The manuscript was prepared for J. Q. Howard, and, somewhat abridged, constitutes the sketch of B. H. Latrobe in Howard's article, cited below.

²On August 1 and November 2, 1792. Cf. "Letters of the Commissioners," (Office of Public Buildings and Grounds), vol. 1, pp. 107, 116.

³Cf. his statements in "Thornton Papers," Library of Congress, Division of Manuscripts, Nos. 183, 201, 209, 322. His original competitive drawings were not in the office when Latrobe took charge in 1803. Cf. "Letter of Latrobe to Jefferson, February 27, 1804, Department of State," "District of Columbia Papers," vol. 4, pt. 2, No. 108.

¹The accompanying address is reprinted in the *Maryland Historical Magazine*, vol. 4 (1909), pp. 221-228.

²Adolph Cluss: "Architecture and Architects at the Capital," in A. I. A. "Proceedings," 1876, p. 39.

³Letter of Lot O. Morrill to B. H. Latrobe, Jr., June 4, 1872. Gamble Latrobe collection.

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the men who would have had opportunity to secure the return to them of their competitive drawings. Thus, at all events, there can have been no great number of drawings in the group which B. H. Latrobe, Jr. supposed to have been presented to the Patent Office, and it is even possible that his memory was at fault after a lapse of years, and that he really had in mind the drawings presented to the Maryland Historical Society, which he otherwise should surely have mentioned in addition.

It is unfortunate that the missing drawings include the most important set of all, the premiated design of William Thornton for the Capitol. The lack of this has been the most serious cause of the disputes which have raged in modern writings over its originality, and over the responsibility for the design as executed, or the contributions to it of the various architects charged with the conduct of the work. An attentive study of written documents already published would, indeed, have enabled one to refute many loose assertions which have been made regarding the character of the missing premiated design, but would not have sufficed to permit a reconstruction of it. Such a reconstruction is now at last made possible by the discovery of two preliminary studies of Thornton for the plan¹, with unmistakable legends in his own handwriting, and other rough sketches of the highest importance. These, moreover, prove to establish the identity of two large elevation drawings by Thornton²—hitherto supposed to have formed part of a competitive design for the President's House—as further preliminary studies for the Capitol. With the reconstruction based on all these, our knowledge of the competitive drawings will be found sufficiently complete to permit a final settlement of the vexed questions in the genesis of the Capitol.

Other drawings made by the authors of the competitive plans, throwing added light on personalities and work, have been unearthed in widely scattered places, and form an important body of fresh material, hitherto unemployed.

Besides the drawings there is, of course, a great mass of relevant written documents, all

¹Library of Congress, Division of Manuscripts, "Thornton Papers," (large portfolio), Nos. 1354, 1355.

²These were presented by Edward Clark to the American Institute of Architects about 1898, and now hang in its offices in The Octagon in Washington. Cf. Glenn Brown: "Dr. William Thornton, Architect," in *Architectural Record*, vol. 6 (1896), p. 67; and his "History of the United States Capitol", vol. 1 (1900), p. 87.

now in public hands, and today, by recent binding, indexing and publishing¹, made far more accessible than ever before. The Office of Public Buildings and Grounds of the War Department has the correspondence and proceedings of the old Commissioners of the Federal District. The State Department has, in its "District of Columbia Papers," the manuscript correspondence of Washington and Jefferson regarding the matter. The Division of Manuscripts of the Library of Congress has many volumes of Dr. William Thornton's letters and papers, formerly belonging to Mrs. Bayard Smith and her son, J. Henley Smith, and then examined under some difficulties. A sealed packet containing certain additional papers, "with regard to Mr. Latrobe's proposed alterations of the Doctor's plans in building the Capitol," bears the proviso that it shall not be opened until the year 1925. Although it is possible that this packet may include some evidence pertinent to our study, it is believed that all the essential facts can be supplied from corresponding manuscripts elsewhere. With regard to the other competitors, material gathered in a wide search is sufficient, in most cases, not only to explain their competitive designs, but to give us a clear idea of the men themselves.

Although there exists no complete or adequate work dealing with the competition for the Federal buildings, or even one devoted primarily to it, many earlier writings contain references to it, and a few discuss the Capitol designs in some detail. Thus, G. A. Townsend, in his book "Washington Outside and Inside," published in 1873, called attention to Hallet's drawings, one of which he reproduced; and, on the suggestion of Edward Clark, advanced the view that Thornton's competitive design was based on an earlier design of Hallet². J. Q. Howard, in an article, "The Architects of the American Capitol," which appeared in 1874, concerned himself more with the question how far Thornton's premiated scheme was followed or departed from, and after careful study of the evidence then available, came to the conclusion that the chief credit for the executed

¹Many, but by no means all, of the important documents were printed in the "Documentary History of the U. S. Capitol," 1904, 58th Congress, 2d Session, H. R. Report No. 646. Washington's writings relating to the National Capitol were printed entire as volume 17 of the "Records" of the Columbia Historical Society.

²Pp. 58-63, especially p. 58.

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design was to be assigned to Hallet¹. These views remained the accepted ones, on the whole, for many years, both among those writing at second hand² and among those who undertook an independent examination of the evidence³.

A vigorous attack on them, however, was made by Mr. Glenn Brown, who published in 1896 and 1897 a series of articles on the history of the Capitol⁴, and later expanded them into the two monumental volumes published in 1900 and 1903. In these, although he was concerned primarily with the executed building, he did the service of reproducing for the first time, among other illustrations, five of the competitive designs for the Capitol from the Maryland Historical Society collection, together with most of Hallet's drawings and Thornton's modified designs. He asserted that Thornton's competitive design was prepared in the West Indies, so that he could not have been influenced by Hallet's studies; that Hallet's drawings which are preserved were made subsequent to the award, as modifications of Thornton's accepted scheme, and, furthermore, that the existing drawings of Thornton were essentially similar to his competitive design, so that the chief credit for the executed building also belongs to him⁵. These statements, with the weight of their official sanction, have naturally become universally accepted, and even to question them has been felt to be disputatious and malignant.

Unfortunately for the security of the conclusions, however, all three of their premises just cited have since been shown to be unfounded⁶, being expressly controverted by numerous fresh documents, which show that

¹*International Review*, vol. 1, pp. 736-753, especially p. 738.

²E.g. Peter B. Wight in his paper "Government Architecture and Government Architects," read at the A. I. A. convention in 1875 and printed in the *American Architect*, vol. 1 (1876), at p. 84; and Adolph Cluss in A. I. A. "Proceedings," 1876, at p. 39.

³C. B. Todd, in his book "The Story of Washington," 1889, pp. 37-38, based on the manuscripts at the State Department. J. H. B. Latrobe, in his address before the A. I. A. convention of 1881, printed in its "Proceedings," pp. 2-21, supposed that the building, as begun by Hallet, did not differ greatly from Thornton's premiated design. He based it, however, on the erroneous idea that the plans by Thornton, then in his own possession, really those of the modified scheme of 1796, "represent, no doubt, the plan approved by General Washington." He adds, moreover, regarding Hallet, "nor does the fact that he was employed to carry out Thornton's plan absolutely militate against his claim that this was in fact his own."

⁴*American Architect*, vols. 52-55.

⁵"History of the United States Capitol," vol. 1, especially pp. 9, 10, 19.

⁶Bennett: "Stephen Hallet and His Designs for the National Capitol, 1791-94," in *A. I. A. Journal*, vol. 4 (1916), pp. 290-295, 324-330, 376-383, 411-418, especially pp. 381 note, p. 377, and p. 294, respectively. Hallet's letters are there printed entire.

Thornton prepared his final drawings in Philadelphia, that Hallet's drawings were made a year earlier than had been supposed, and that Thornton's existing drawings differ notably from descriptions of his competitive design,—so that even their own sponsors might well now desire to give these crucial statements a fresh examination. The demonstration of this was incidental to a special study of Hallet and his designs by one of the present writers, in which the priority in date and the originality of Hallet's studies, and his important contributions to the executed building, were reestablished, while the positive determination of Thornton's contributions was left to await the discovery of fuller evidence regarding his premiated design, such as are now first available. To our scanty existing knowledge of the other competitors for the Capitol and their designs, few new contributions have yet been made¹, and not even a correct list of their names has ever hitherto appeared in print.

Regarding the President's House, for which a design was immediately adopted and executed without dispute, there has naturally been less controversy, and the competitive designs themselves have hitherto attracted still less attention. The elevation of the premiated design by James Hoban, in the Baltimore collection, has been reproduced in connection with the historical notes by Mr. Charles Moore in the report on the restoration of the White House². His competitive plan, in the Coolidge collection, has been published by one of the present writers, together with Jefferson's anonymous designs, and a study of the prototypes followed by these two competitors³. Aside from them, the President's House competition has never been studied, and the many interesting phases which it presents are entirely unknown.

In all the earlier writings on the Capitol and the White House, the competitive designs, especially those of the minor men are judged, severely enough, by full academic and professional standards, without appreciation of their historical importance, their novelty and merit for their own time. George Hadfield,

¹Faw's plan is reproduced and discussed incidentally in Kimball's "Thomas Jefferson, Architect," 1916, Fig. 130, and pp. 156-159.

²57th Congress, 2d session (1903), Senate Document No. 197, after p. 47.

³Kimball: "Thomas Jefferson, Architect," 1917, Figs. 179 and 127-129, pp. 176-179 and 156; also his article: "The Genesis of the White House," in *Century Magazine*, vol. 95 (1918), pp. 523-528.



SAMUEL BLODGET, JR.

From the portrait in the office of the Superintendent of the Capitol. The portrait shows Blodget in hunting costume. Mrs. Blodget, a famous beauty, remarked irrepressibly on her husband's comical look.



THOMAS JEFFERSON

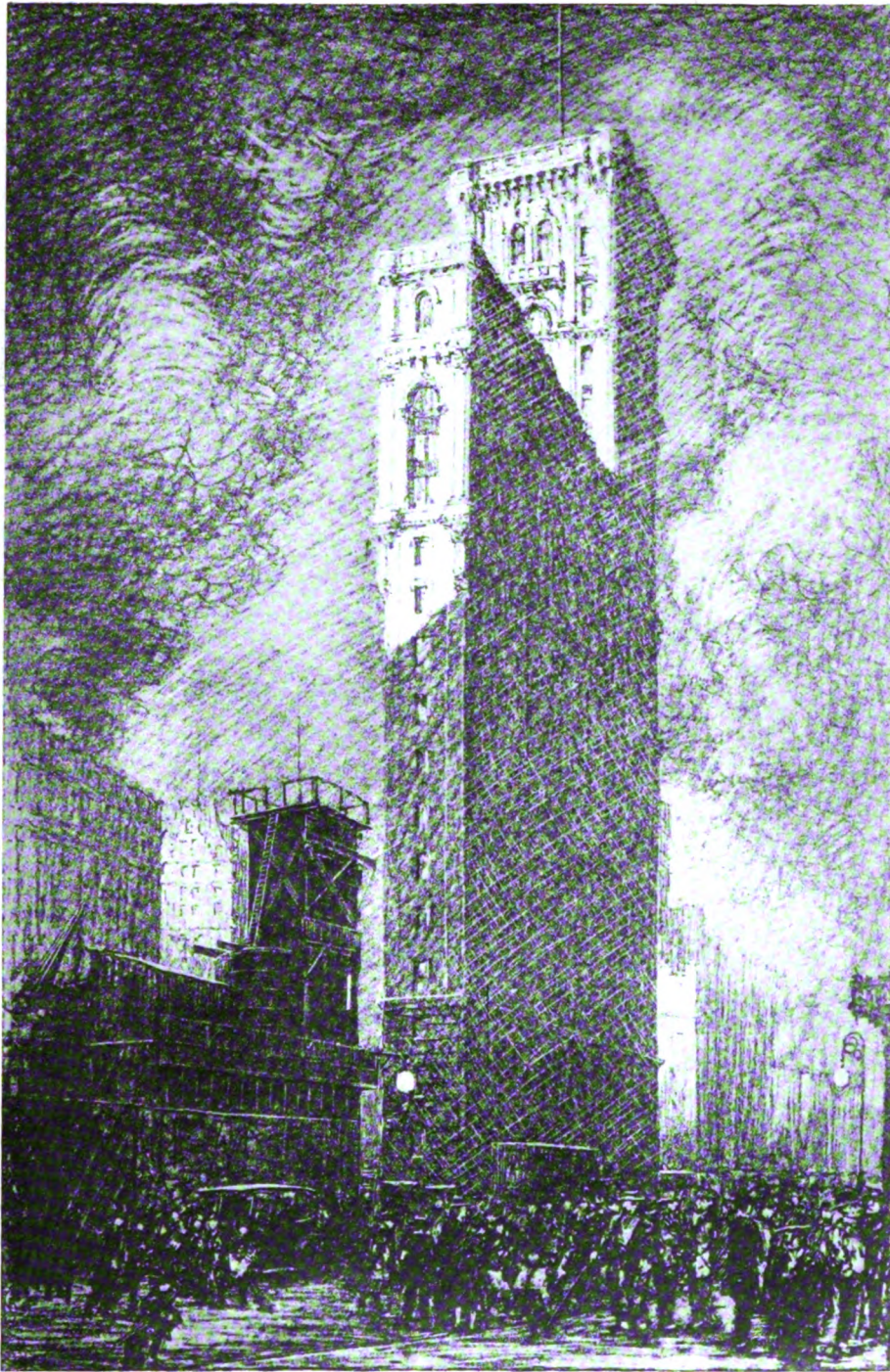
From the portrait by Mather Brown, in London, 1786, at the period of Jefferson's greatest architectural activity. Formerly owned by John Quincy Adams, Esq.

an English architect who later supervised the work on the Capitol, wrote about 1820, with professional and classical disdain, of "The pile of trash presented as designs for said buildings,"¹ and similar intemperate expressions abound in all but the most recent discussions.

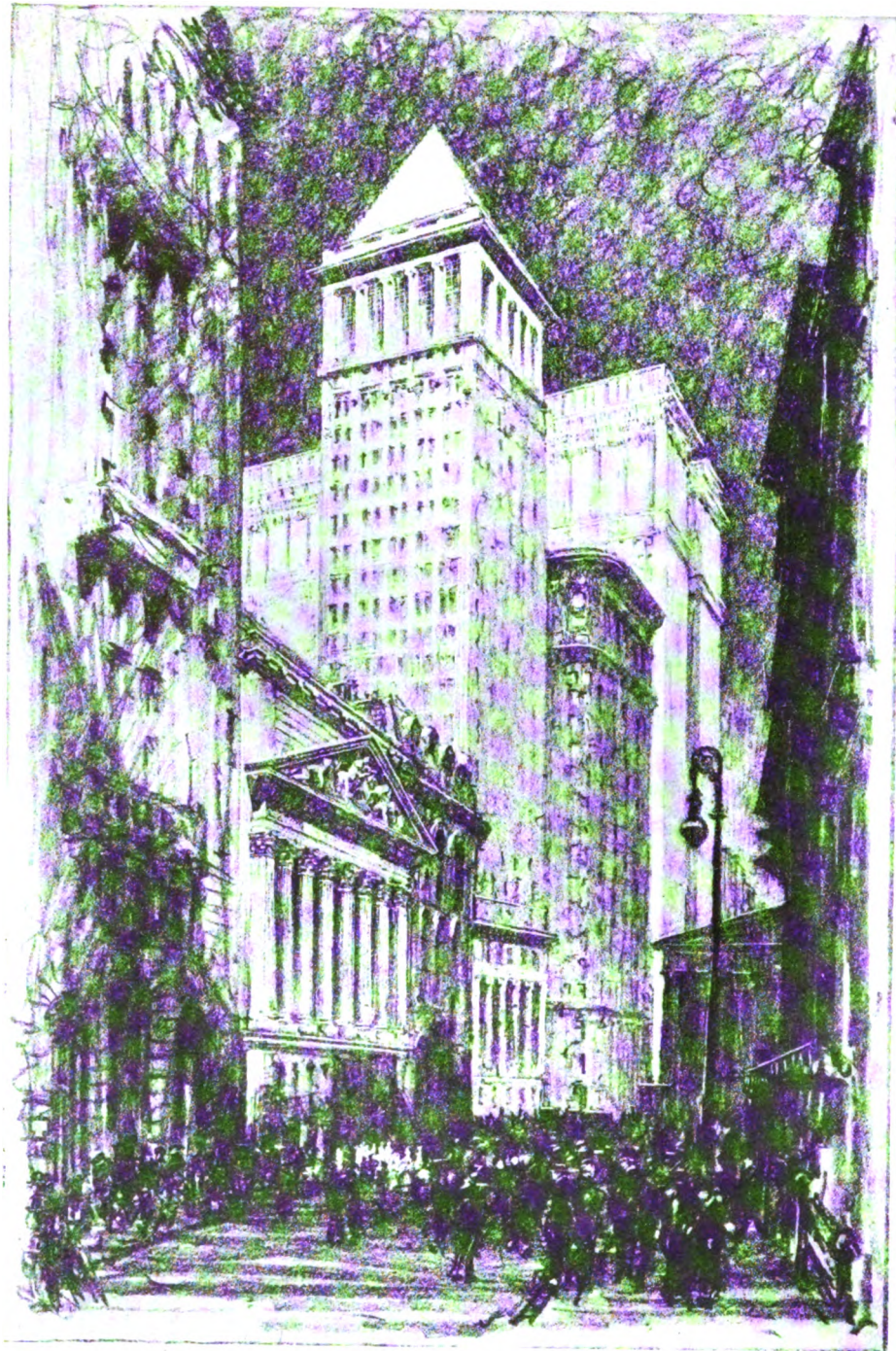
The papers here initiated aim to cover fully both the competitive designs themselves and their authors, and to treat them sympathetically with reference not only to the standards of our day but to those of their own. They will include reproductions of all the initial competitive drawings which are still preserved, with

¹Manuscript in the Office of the Superintendent of the Capitol, addressed to the editor of the *Washington Guide*, and published in the subsequent editions of the *Guide* edited by William Elliot.

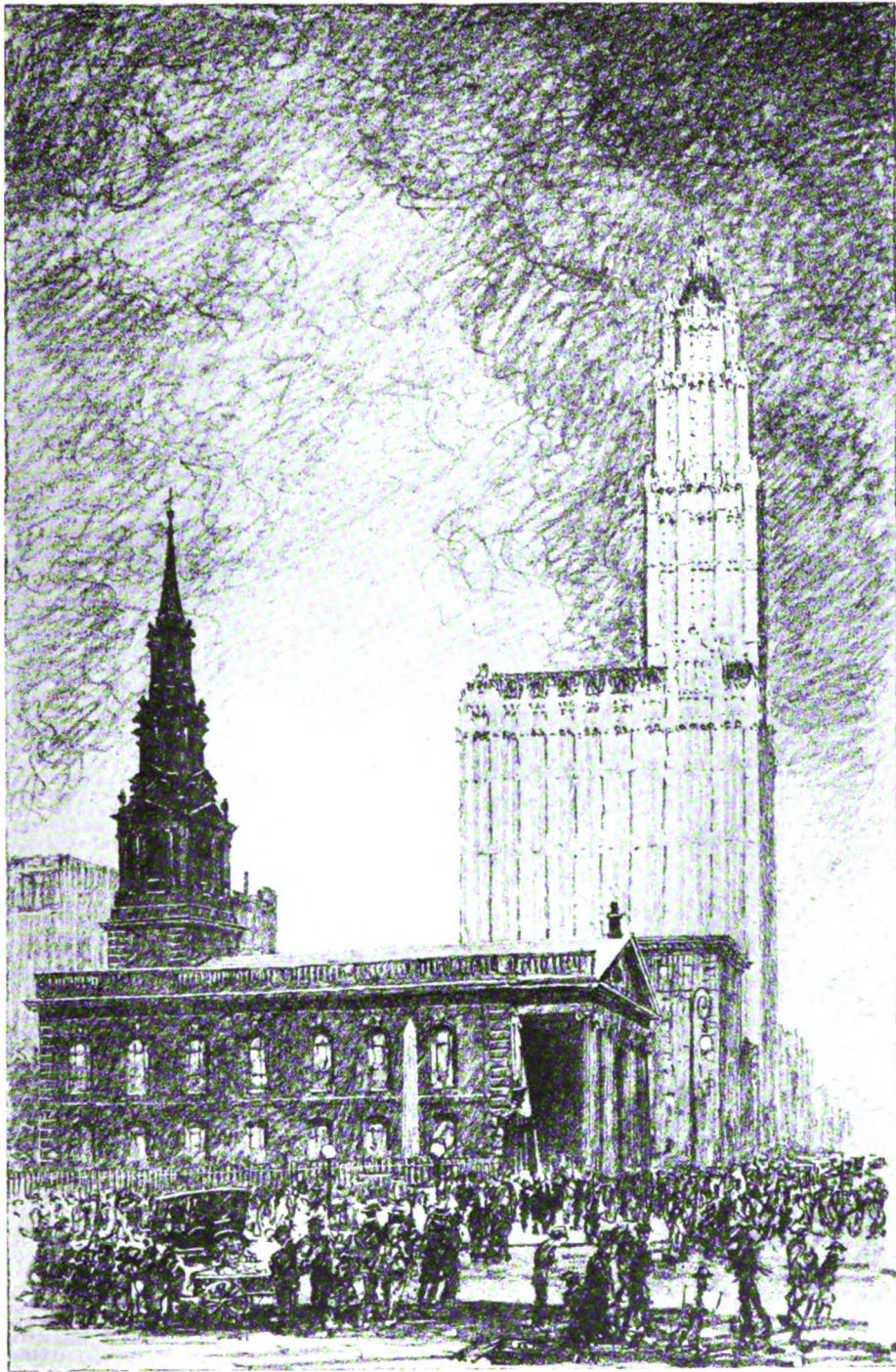
attempts to determine finally their architectural relationships, prototypes, and influences; biographical sketches of their authors with other unpublished designs, portraits, and letters, constituting a new and richer gallery of early American designers; and discussion and comparison of the solutions made by the competitors of the architectural problems involved in a capitol and an executive mansion. Although the subject undertaken is limited to the competition and the competitors, and does not include the later history of the Capitol and the White House, an attempt will be made, in conclusion, to outline the bearing of the results obtained on these important further questions.



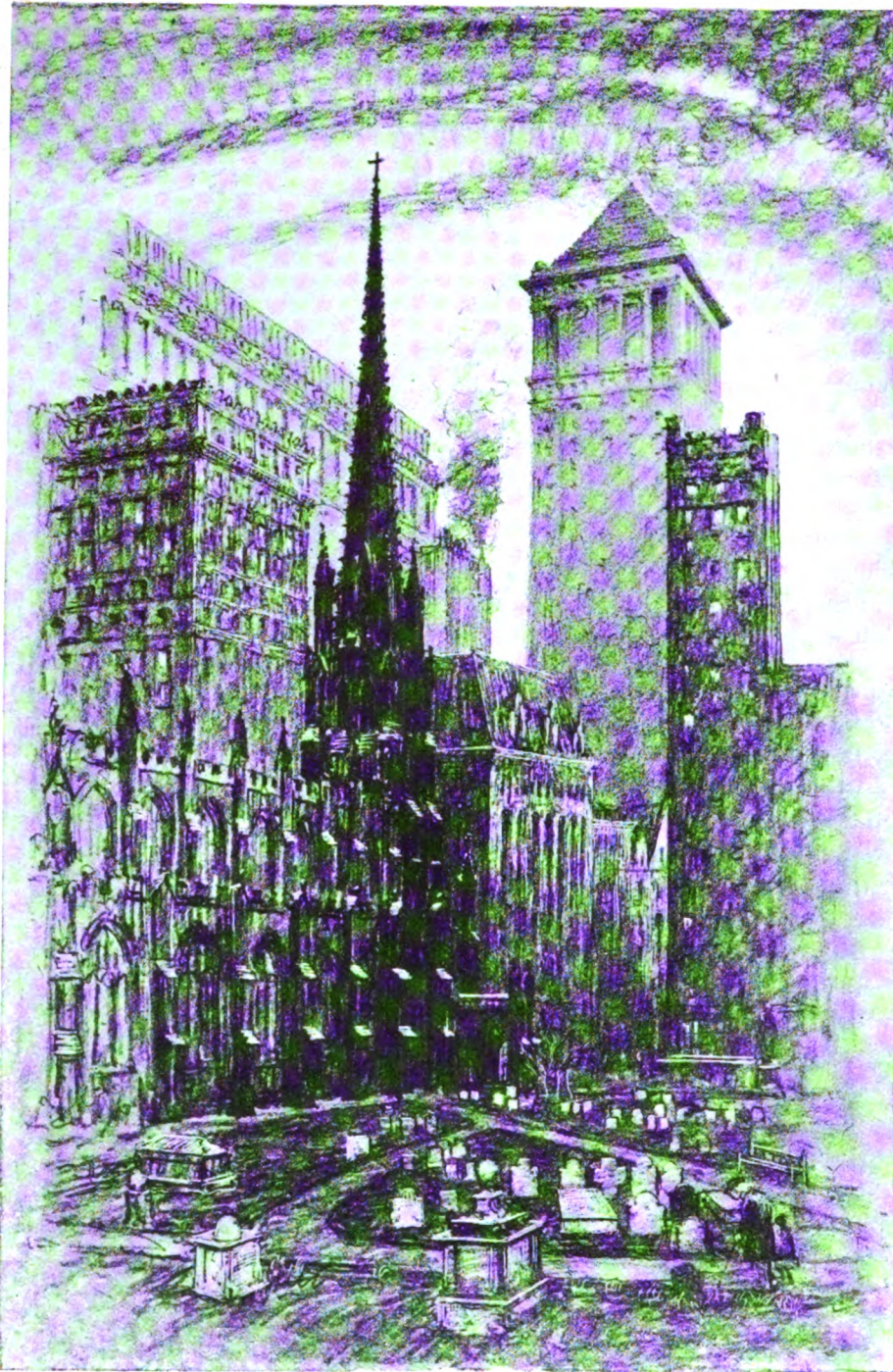
UPPER NEW YORK
After a lithograph by Chesley Bonestell



LOWER NEW YORK
After a lithograph by Chesley Bonestell



LOWER NEW YORK
After a lithograph by Chesley Bonestell



LOWER NEW YORK
After a lithograph by Chesley Bonestell

Samuel Stanhope Labouisse

HOW true it is seen to be, in the face of death, that the living of life is an art which immeasurably transcends the worth of all those creations before which we bow in adoration and reverence. It is by life that the world is enriched and made beautiful, and we give so little of our worship to life!

But those who knew Sam Labouisse and who had the rare privilege to be counted among his friends, will remember him far less by the buildings he built than by the quality of the life he lived. And there is no memory of a life to equal that. I do not know where he was born, nor when. Of his preparation for architecture I am utterly ignorant. I know that he was a nephew of Richardson, and I know that he studied as a youth, but what is of far more importance, I know that he was always studying, inquiring, searching; always keen to gain added truth and to fill out his life by enlarging the circle of his contacts.

It was not easy to pass the gate of his reticence, but, once inside, it became clear that it was modesty and not reticence that had kept the gate closed, for modesty was the central force from which radiated that consideration of others which kept the spark of gentleness always aglow within his nature. Yet no one was ever more quick to respond to an appeal against injustice and wrong. Into a conflict for the right he threw himself without stint and without thought of his personal fortunes. No task in which a struggle for the good was involved was ever too heavy to deter him from giving abundantly of his time and energy. To the Institute and his profession he was loyal beyond any words of mine to describe. The ideals that he had set for himself and his life were born of the nobility of his character and nourished by a constant activity toward their realization. They were profound forces, the strength of which was only known to those who came within the magic circle of his inner life.

He was the founder of the School of Architecture at Tulane University, and it was due to his never-flagging interest and zeal that so great a measure of success now stands to the credit

of this department. As president of the Louisiana Chapter of the Institute, he labored incessantly for the welfare of his fellow practitioners and for the betterment of their common profession as a civic influence.

His city he loved with a devotion that was both his joy and his passion. It was, perhaps, our mutual love for New Orleans that first drew us together. He felt keenly, as I did, the slow passing of that fabric whereon an earlier day had wrought such patterns of beauty. The hours that we spent together in searching out its hidden treasures were among the happiest of my life. He knew them as few others did, and took great draughts of pleasure in making a pilgrimage to their haunts. Indeed, it seems but yesterday that we sat, just when night was falling, on an old wharf at the Bayou St. John and watched the shadows lengthen on the water and the trees merge themselves into soft masses of velvety blackness. Of what we talked I scarcely remember, even as I have forgotten of what we talked when we sat the next evening in old Jackson Square at twilight. We had spent so many hours in these places and talked of so many things that the moments seem now to have become blended together in a fine and precious memory of the man, with all the unimportant details blotted out.

For his family, he was ever the personification of youth. The difficult struggles of the bare, lean years could neither mar nor diminish his affection. It flowed forth in a quiet stream of serene and resolute hope, with its source far beyond the reach of the trials that often beset him sorely; to them he made but scant allusion, and never in any spirit of complaint. A word of impatience called forth by the unfairness of another was the only clue by which his friends knew of the obstacles with which he wrestled. His death has left a void in many lives, I might say, and yet his life so helped to fill those lives that there must be no void. The spirit of the man has left its indelible imprint as the great art that passeth human understanding. It abides with those who loved him, to be by them diffused as an imperishable legacy for the enrichment of the world.—C.H.W.

The Royal Institute of British Architects

EXTRACTS FROM THE ADDRESS BY THE PRESIDENT, MR. HENRY T. HARE, AT THE
OPENING GENERAL MEETING, MONDAY, NOVEMBER 4, 1918

The New Era

We stand today at the threshold of a new era. Our whole system and scheme of life have been dislocated and virtually destroyed. Industry, commerce, and society must be reconstructed and reconstituted on a new plan to meet the altered conditions. We have the opportunity of making a new beginning, and it is for us to approach the complex problems which face us with open minds, anxious to build upon a sure and solid foundation, endeavouring to keep all the various factors before us in due and proper relation.

Reconstruction is the comprehensive word which expresses the problem that faces our country in every industry, calling, and profession. In our own case, the practice of our art during these years of war has been almost entirely in abeyance. We have had to submit to restrictions greater than those imposed upon any other profession, and we have done so cheerfully and willingly. Our younger members have, with one accord, diverted their energies from the arts of peace to those of war, and while we are proud of what they have accomplished, we remember with sadness, though with gratitude, those who have fallen in the struggle. We shall welcome those who come back to us and endeavour to make their return to peaceful occupations as easy as may be.

The Returning Architect

A difficult problem confronts us in the resettlement of architects who will be returning to civil life, more particularly those who were but partially educated in their profession and those whose studies were interrupted. It is a very serious matter for these young men to have lost four years of study and to have the date of their qualification put forward to that extent. While it is, of course, essential that they should be thoroughly qualified by a proper period of study and experience, every facility must be given them to acquire the requisite proficiency in the shortest possible period, and this matter has engaged the attention of the Board of Architectural Education, who are making such concessions as may be possible. For such men as will be released from the Army without any professional training, I very much doubt whether architecture can be regarded as a desirable profession for them to enter, unless they are in a position to devote something approaching to the normal years of study to their qualification.

Housing

About a year ago, at the instance of the Local Government Board, we instituted a competition amongst architects in England and Wales for designs for houses for the working classes, to be built immediately after the war by local authorities. Such houses have hitherto been built mainly by speculating builders without the intervention of an architect, but it is now felt that the problem is worthy

of more serious consideration than it has received. The programme of our competition was carefully drawn up, and was conducted in conjunction with our Allied Societies in six separate centres, so arranged as to embrace the whole of England and Wales. The response made by the profession has been most gratifying, and most of you, no doubt, have seen the results exhibited on the walls of our galleries. Designs of four different types of houses have been selected in each centre, and these are to be published at once in book-form with descriptive letter-press.

It was not to be expected that such a competition would produce anything very original or revolutionary, for the problem is of too simple a nature to allow of it. The real solution lies in a carefully considered balance of parts—in fact, a compromise in which the importance of each feature is duly weighed and given its correct relative position. I think many of our selected designs have very fairly secured this, though I would not say that any individual design is not capable of improvement in some particular. One of the main purposes which will be served by the holding of the competition is to identify architects more fully than has hitherto been the case with this class of building, and I have some confidence that local authorities will, in most cases, recognise that it is to their ultimate interest, both financially and otherwise, to employ independent architects to carry out these undertakings. It cannot be too strongly emphasized that in future these houses, which from their number and universal distribution form so large a feature of our town and countrysides, must be pleasant to look upon, healthy to live in, and carefully studied in their arrangements, while at the same time being economical to build. In order to secure these virtues, great skill and mature knowledge are essential in the designer, probably in a greater degree than is required for a more complex and expensive building. The very simplicity of the problem enhances its difficulty.

Following the competition, we have suggested to the Local Government Board the desirability of actually erecting a small number of these cottages in a readily accessible position near London and furnishing some of them ready for occupation, so that they may be inspected and criticised by all those who are interested and serve as a general guide to those who are about to promote housing schemes. It is felt that by no other means can a really satisfactory solution be arrived at, for mere drawings cannot convey the same impression as the actual object in being. I am happy to say that this suggestion has been accepted, and we are now considering the details of carrying out the project with the least possible delay.

The Status of the Architect

During the period of inactivity in the legitimate exercise of our profession, we are taking the opportunity of inquiring into the status of the architect. It is felt that,

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

although the course of study and attainment required to equip an architect to carry out his duties efficiently is at least as severe as that required for other professions, from many causes the general public do not appreciate his position adequately. A very large amount of building is carried on either without an architect or under an entirely unqualified practitioner, thus bringing the profession into disrepute and leading to many abuses. The policy of the R. I. B. A. has been for many years to insist upon a very thorough course of training and education to qualify for membership, but unfortunately a large number of architects do not submit themselves to this course and consequently do not belong to us; indeed, the difficulty of admission may be said to act as a deterrent.

Is there any means by which the building public may be enabled to distinguish between the qualified and the unqualified?

Is it practicable, short of actual compulsion, to ensure that every man who seeks to enter the profession shall be properly qualified by education and training to carry out the duties of his position to the satisfaction of his client and the benefit of the community?

Have we, hitherto, properly correlated and adjusted the relative importance of the practical business and scientific side of our work with the historical and artistic aspects?

Can any steps be usefully taken to organise and unify the profession?

These and kindred questions are now being carefully considered, and the views of those competent to give opinions are being collected and noted with a view to so ordering the policy of the Institute as to lead to a general improvement in the position of the profession.

In this connection it is felt that architects have not hitherto adequately taken their part in public affairs, on many aspects of which they are peculiarly qualified to speak. We ought to have our representative in Parliament, and there are few local bodies which would not be strengthened by the addition of an architect member who would concern himself with the building projects of the district and its amenities.

I should like to see every town and village with its Amenity Committee consisting of those residents who are interested in its history, monuments, and antiquities. I would have every new building or public improvement subject to the criticism and, to some extent, to the control of such a body. Here is a wide field for the activity of architects and one which would enable us to forward the education of the public in artistic questions which are generally lost sight of and submerged in the purely practical and utilitarian aspect.

War Memorials

Now that peace appears to be so near to us, the question of an adequate War Memorial is pressed upon us more insistently. The events of the past four years are so close to us that we do not realise the magnitude of the achievement which is to be commemorated, how narrowly humanity has escaped a colossal catastrophe, and how great and complete is the victory which is now being secured. Consider how Paris commemorated the Na-

poleonic epoch in the vast scheme of which the Place de la Concorde is the centre, and how Italy (far from being a rich country) recorded her war of liberation in the Victor Emmanuel Monument in Rome. Yet the events which these memorialise, great as they were, sink into comparative insignificance beside the present great world upheaval.

Surely we can and shall be able to find some means which shall mark for all time in a great and imperial manner the part which our Empire, widespread and worldwide, has taken in these events; some great scheme which shall rise above and beyond a mere project of estate development affording a promising field for the activities of the speculative builder. Such a scheme should be centralised in some great monument of a character to excite the imagination and providing a field for the adequate commemoration of the share which every portion of our Empire has taken.

I venture to suggest that the scheme for new Charing Cross Bridge and its approaches and the removal of the station to the Surrey side of the river is such a project; with proper support by the nation at large it is capable of being developed into a truly imperial project, worthy in every way of the great events which are now developing.

The Royal Academy has recently very properly established a Committee of Artists to assist in the initiation and execution of war memorials, a necessary and useful office if we are to avoid former failures. Could not this Committee, enlarged perhaps and put on a somewhat broader basis, take into consideration the question of this great National memorial, and prepare under its ægis a definite project which would be put forward with all the authority of the entire and united body of the artists of the Empire? What is wanted, I think, is some such definite proposal, and it is needed without delay. There is no reason why we should wait two or three generations for the realisation of the scheme. It should be carried through with the enthusiasm and energy which the war has called forth, and while the great struggle is fresh in our memory.

The coming year is to be one of the most eventful in all history, and on the decisions to be taken will depend the welfare and prosperity of future generations. We look forward to the immediate future with high hope and confident expectation, feeling that we have passed through the worst days of trial and anxiety, and that we may at last emerge into a period of peace and prosperity.

NOTE.—Mr. Hare also spoke of the hardships experienced by English architects during the war through the restrictions placed upon building, and it appears that these restrictions have not yet been removed. Notice has been given that at the January meeting, the Society will be asked to appoint a representative delegation to wait on the Ministry of Reconstruction, before whom they may place arguments for the speedy removal of all restrictions on building.

When the full chronicle of the war is made known, we shall learn how greatly our European confrères have suffered. Quite aside from the stoppage of work, their ranks have been decimated by death on the battlefield, something from which the profession in this country has been almost wholly spared.

Old Hickory

We leave the Hermitage
And wind our way
Down the long bordered avenue
Of cedar trees.
Through the perilous narrow gate
The automobile threads its way—
The while we wonder
What Andrew Jackson would have
thought
To hear a motor
Humming in his drive—
To come upon a smooth hard road,
Quite fringed with trees.
Through the delicate tracings
Of their boughs, the sunlight
Of a day in young December
Weaves grey shadows shot with pink.
The golden glow of nearly night
Is splashed with tawny browns
And rich rare russets, blending
To a hazy film of roseate light
That bathes the world in happiness.

The sinking sun
Has fired the lowest clouds
With shafts of flaming gold;
Those higher up are touched with
Tips of palest lavender
That turn to pink and mauve
And finally to vivid violet,
Crepuscular.

Before we turn the car
Into the village street,
The sun drops to the horizon,
Setting the west on fire as with
A gorgeous conflagration
To warn us of the hell,
Into the haunts of which
We are so gaily venturing.
Yet on we go our way
Along the adamantine road,
Built, they say, a mile a day.

The dreary rows of houses,
Row upon row, hundred upon hundred,
Thousand upon thousand,
On either hand,
Black and grey,
Are only part of what
Was in the plan.
Acres of batter-boards,
In stiff gridiron rigidity,
Define what would have been
If there had come no armistice.
The houses are unoccupied;
Perhaps they'll never know
The footfall of a tenant,

Yet the long ditches
In the alleys between the fronts,
Tell that water was to come,
And light, and all the houses
Have six rooms, and windows;
A chimney, and two doors—
At least so they looked in the dusk.

Beyond, an interlude
Of boarding-houses,
Too dismal for my pen;
Nearby, a blackened acre tells
The burning of the school,
While a huge caravansary
Marks now the new one,
Built within three weeks,
They say.
And then another interlude
Of houses they call better grade,
With columns and piazzas,
Painted tawdrily, to hide
In vulgar shame,
The architectural sham
That will not hide behind.
Then there came eating-places
Where men stand in file,
Waiting for the doors to open
On their evening meal.
Up the long street,
In groups of two or three,
Or singly,
Come the workers from the plant.
Bit by bit
They disperse and disappear,
Into the monotonous banality
Of the wooden town,
Or else they swell the ranks
Of those who wait for food.

Before the post office
A crowd has gathered,
And we guess the evening mail
Is ready to give out.
And we are glad to feel
That those who dwell
Amid this dreary desolation
Have contacts with a world outside
Where there are kith and kin,
Remembered homes and rooms,
And places warmly kept for them
In other hearts and lives.
For these we do not feel as sad
As for the rest who stand
In broken rows, before
The cheerless eating-house,
Though some of them, we guess,
May have a letter
In their pocket.

We leave the post
And dodge a mudhole in the road
That looks to have no bottom.
A minute more and there's the gate
Into the works.
We stop and give our matches
To the guard.
Our guide assures
Our loyalty and guarantees
To keep the straight road through;
And thus the village drops behind,
And we are stilled and quiet,
In the powder plant
They call Old Hickory.

It is a wonder of the war
For engineers to claim
As great performance;
That no man can deny.
There has been spent,
They say, a hundred millions.
On the fields about us,
From whose breasts
All vestiges of herbage
Have been stripped
To keep the grass-fires down,
Farmers plowed and sowed
But scarce six months ago.
No war-mad king, however mad,
Could hear about this work
And fail to know, that preparations
Such as these
Could only mean defeat.
A million pounds of powder
Every day!

The sun has gone,
To leave a dying afterglow;
Darkness descends
So wonderfully swift
We have not noticed it.
As we move down the road,
Slowly gliding between
The shapeless mass of structures
Rising black on either hand,
We are depressed.
We think of Dante,
And the Inferno,
And the Doré pictures,
But we know well
That here's the graphic picture
Of the veriest Hell,
That hatches all the other hells,
Of shell and shrapnel,
Scattering death.

Away, into the blackness,
Stretch the rows

OLD HICKORY

Of buildings, big and small,
High and low.
From some there come
The grumbings and the rumblings
Of machinery;
From others steals the hissing
Of escaping steam.
A little locomotive,
Like a toy,
Snorts suddenly beside us,
And startles us with thoughts
Of direful possibilities.
Our guide remarks
That it is built
With spark arresters.

In one great structure,
We are told,
Are mammoth engines,
Giving power to turn
And grind and haul and drag.
We catch the glintings
Of their polished rods
And cylinders,
Through windows grimed with dirt.
All over the ground,
In all directions,
Crawling like worms,
Wriggling like snakes,
Running like vines,
Are miles and miles,
Thousands of miles, of pipe,
Of all dimensions.
Who knows what they carry
And where they go?
How can anybody know
Where they all go
And what they mean?

The boiler-house
Has towers nine that rise
And vomit smoke into the sky.
A whole carload of coal
It takes to feed their maw
Each nine minutes of each day.
"There," informs our guide,
Pointing elsewhere,
"The powder floats on water;—
And tells us why,
Which I've forgot;
"And there," he says,
"The powder's stored,"
In those long houses
Lying low in alleyways
Against the dead black night
Of east.
There are the blending towers,
A hundred feet in air,
And that long chute, inclined
From the very topmost point
Down to the ground,
Is for the man who stays there

While the powder flows together.
In case of fire, he only leans
His weight against the chute,
And so he falls to the ground,
And safety, if he can.
Does he always fall safely?
No, not always, but mostly so.

The blending towers have snouts
That silhouette themselves
Against the last red glow,
Now almost dead in the west.
To me they seem to be
The snouts of the Old Men
That sniff the dark night air
For scent of blood—
The scent of rich, red blood,
On which they fat themselves,—
The blood of beautiful youth.
No old men's blood will satisfy
These flabby jowls;
The Old Men have taken care,
Precious care, to keep the taste
Of youth sweet to these snouts,
The while they boast their sacrifice
(Made to the Old Men's world,)
And say they give their sons!
As though they owned them, too!

For, after all,
This is the Old Men's world.
They have come to own it
With their deeds and titles,
Their stocks and their bonds,
Their banks and exchanges,
Their railroads and ships,
Their dogmas and creeds,
Their prisons and jails,
Their law and their rule,
Their college and school.
And the snouts of the towers,
At the powder plant,
Are the flabby jowls
Of the Old Men,
Of all lands and kinds,
For to be old
One need not have lived
A long time,
Or anywhere in particular.

Some men were always old,
And never had a youth,
While others have lost theirs
In the world of Take and Get.
They have not known the rapture
Of great youth
Which never wills to Own,
But wills to Be.
And so, with wiles,
The Old Men steal the sandals
From the joyous feet of youth,
And make him old like them.

Yet there was once a youth
From whose intrepid feet
The Old Men could not steal
The sandals of his faith.
For once, they met their master
And were beaten,
And this youth is still
Forever and forever young.

Thus, as I looked
Across Old Hickory's waste,
I wondered whether Christ
Could once again
Give of his youth
To other youth,
In such a way
That they shall have
A faith that can endure
The Old Men's tempting;—
Promises of wealth,
To be set in jewelled diadems,
And crowned and sceptered,
And enthroned;
Promises of power
To hold a tribute
Over other lives;
Promises of luxury,
And time to while away
In satisfying
All caprices of the body,
Or the mind.
Will a Christ come again?

Some day it will be so,
We must believe,
For otherwise our doom is written,
If the pen remain
In the Old Men's hands.
There is no hope for the world
Except in Youth!

For the Old Men look at Life
As a raging sea,
(And Thought a perilous craft)
Where harbors count, as safety,
Above all other earthly things.
They call the stuffy docks
To which they moor their souls—
Respectability!

To Youth, life is a flowing river,
And to be young,
One need not have sailed
Upon it a short time,
Or a long time,
Or anywhere in particular.
Only one must sail fearlessly.

It was Christ
Who made the greatest journey,—
Will the Son of Man
Be admitted at Versailles? B.

The Profession of Architecture in New Zealand

By W. BEAUCHAMP-PLATTS*

THE profession of architecture in New Zealand is centered in The New Zealand Institute of Architects. This body was founded on the 19th of October, 1905, when delegates from five separate architectural associations met in the Town Hall, Wellington, for the purpose of joining in the formation of an institute which would include architects of the whole of New Zealand in its membership. These delegates represented the Auckland, Wellington, Canterbury, Otago, and Southland associations. Prior to this date no organization, in the wider national sense, existed, the small societies being entirely local in scope and more social than professional in character.

The meeting of delegates in 1905 was thus of considerable importance, and the Institute, the foundations of which were then so well and truly laid, became at once an active and representative body. For eight years it worked quietly and conscientiously for the good of the profession, and succeeded in establishing itself before the public as an Institute which was doing valuable work for the health, safety, and convenience of the community.

In the year 1913 it was considered advisable that the Institute should be incorporated under a special Act of Parliament. Since the inception of the Institute, the question of registration, regulation, charter, license, and other matters of government had frequently been before the executive, and the chief difficulty had been to decide what form the constitution should take so as to foster the aims, ideals, and needs of the Institute and the future of architecture, protect the public and the interests of members, and yet prove agreeable to that very critical and democratic body, the representatives of the people in Parliament assembled.

After mature consideration it was decided to adopt *in toto* the rules of the parent Institute, which, after eight years of practice, had proved to be complete and excellent in their definition and realization of the objects of that body. But with the incorporation of the original Institute in the new and, what may be termed,

the "official" Institute, some more definite steps to secure required results were decided upon.

It may be said, without question, that each country has its own peculiarities regarding the form of local or general government best suited to its needs, and it was doubtless the result of deliberations by the Council of the Institute on this point which prompted it to seek for the "Registration of the Qualifications of Members" under a Special Act of Parliament; and to incorporate the existing Institute as the registering authority, having administrative powers in the matters of controlling the admission and exclusion of members, the education and examination of students, the exercise of disciplinary powers over its members, and, in general, to have the full executive authority needed for the carrying out of the Institute's functions as defined in the Act.

When submitting its draft bill to Parliament, the Institute encountered two serious difficulties at the outset. The first of these was the disinclination of Parliament to make membership compulsory. The second obstacle was Parliament's absolute refusal to grant a monopoly of the use of the simple word "architect" to registered architects. While the first difficulty was not as serious as persons unacquainted with New Zealand might imagine, it was remarkable to find a Parliament so openly favorable to labor as to concede the principle of compulsory unionism, refusing absolutely to extend acceptance of a similar principle, or a modification of it, to a professional body which sought protection for its own and the public good.

The real difficulty, however, was Parliament's attitude over the word "architect" and the restriction asked for in the bill. It caused the Council of the Institute great concern. In spite of repeated representations, Parliament remained firm, holding that it neither could nor would reserve, for the exclusive benefit of any one section of the community, a word in common use. I am of opinion, however, that the real difficulty lay in the want of a proper definition of the word. When called upon by

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the Chairman of a Special Committee of the House, before which I appeared in support of the bill, to adequately define the meaning of the word "architect," I found it impossible to submit any definition which would prove acceptable to the Committee and which did not in some way conflict with existing interests. So the term "registered architect" was agreed upon, and its choice (though not at the time popular with members of the Institute), has proved a wise one. Our citizens are now learning the meaning of the term and are ceasing to employ the unregistered man.

When the Act came into force there was created a Registration Board, with power to investigate and decide upon the claims of all persons applying for registration. The qualifications which entitled applicants to registration were fully set out in the Act. Subject to good character, and to their satisfying the Board as to proficiency, those regarded as fit for registration were:

1. The holder of a recognized certificate (as defined) entitling the applicant to be admitted *ad eundem statim*.
2. A bona-fide practitioner for three years (to apply within twelve months.)
3. A draughtsman having seven years' experience (to apply within twelve months).
4. An engineer with five years' architectural experience (to apply within twelve months).
5. Pupils or apprentices at the date of the Act (to apply within five years).
6. Persons who pass the required examinations.

Of these clauses Nos. 2, 3, and 4 have now lapsed, and No. 5 lapses this year. There now remain only two doors of admission to the Institute, that of "*ad eundem statim*" and that leading from the examination-room.

After completing the Register, the Board held an election for the new Council, among registered members, and having done this and handed over its authority to the Council, the Board ceased to exist. It is interesting to know that out of some 350 cases, only in three instances was the Board's decision regarding the eligibility of applicants reversed by the Supreme Court. The qualification clause for practitioners, as originally drawn up, made use of the expression "engaged as a principal in practice as an architect." The Parliamentary Committee,

despite my strenuous objections, altered this to read "engaged in the *practice* of architecture," and it was this phrase which caused us to lose the three cases referred to. They related to the applications of three builders, who had for years been engaged in erecting buildings according to designs prepared by themselves. They were refused registration by the Board on the grounds that they were builders and not architects. The Supreme Court held that the expression "engaged in the practice of architecture" covered the work they were engaged in, and ordered their registration. It is interesting to note that while Parliament refused to sanction compulsory registration of architects, the Court had power, under the wording of the Act, to impose compulsion in another direction. It is fortunate that the time-limit for admission under this clause has long since expired.

It is now a very open question whether the Council of the Institute will proceed any further in its attempts to have non-members debarred from using the word "architect." The term in use for the past five years, namely "registered architect," has become established, is recognized by the public as indicating membership of a legally constituted body having control and authority within the Dominion, and, moreover, the Hospitals Department will not now accept plans for the erection of hospitals—the funds for building which are, in this country, partly provided by Government subsidies—unless they are prepared and carried out by registered architects, and this practice is being extended in other directions. It is hoped that one of the first amendments to be secured by the Institute (and for which it is now working) will be that "no certificate for any progress or other payment required by law or custom to be signed by an architect, shall be valid, or the payment thereunder enforceable, unless such certificate shall be signed by a registered architect." The constant use of the letters indicating membership and the term "registered architect" have had, as already stated, an educative effect on the public. There are still some members, happily few in number, who do not use the term. This is to be regretted. It is not praiseworthy modesty. The letters and the title represent an honorable distinction and are an indication to the public of an architect's qualifications.

Five years' experience in the administration

of an Act of Parliament gives one a very fair idea of its merits, and I am convinced that, with few exceptions, the operation of the Act has proved that its clauses were drafted on the right lines, at any rate as far as New Zealand is concerned. With the correction of the exceptions referred to, it should prove to be a very satisfactory measure. The amendments desired cannot well be discussed here, as they are, in a sense, *sub judice*, being still under consideration by the Council of this Institute.

It might be considered inappropriate for one unfamiliar with the methods of thought, local conditions, and other special features of other countries to comment upon the ideas held and the efforts that are being made by architects abroad in matters akin to those that are dealt with in these notes. But I venture the opinion that many of the objections to regulation by Act of Parliament of which I have read as prevailing in many places are more academic than real. In saying this I am considering such regulation as it affects the fixing of a definite term or title denoting membership, be it "registered" or any other word, as well as in other directions. It appears to me that no government elected by popular vote will grant any particular section of the community exclusive privileges of the class apparently sought for in some of the registration proposals I have read; for in the history of most legislative enactments the rights of a man earning his living during a reasonable period in a bona-fide way (even if it is not a very skilful way) at any lawful occupation have always been recognized and preserved, and attempts to limit that right when compiling the original list of members, by the imposition of severe restrictions upon his admission to any register must, in equity, fail. At the same time, the reception, into any newly incorporated professional body, of all persons of good character who hitherto have earned their living, wholly or in a substantial part, in the practice of that profession, need not of necessity prejudicially affect the stability or unduly influence the destiny of the new body, nor does the registration of a person of mediocre ability or limited experience exert a revolutionary influence on either his ability or experience, for neither are increased or lessened, nor is his clientele affected. What happens is that the new member of the body comes under its

regulations and discipline, a proceeding which is for his own and the public good.

My five years' experience of a Registration Act for Architects, coupled with ten years spent in intimate touch with the working of an Act for Accountants—measures designed on very similar lines—has shown me that the public will have little or nothing to do with an unregistered man. Further, my experience has been that the disciplinary action of a Council, acting fearlessly and honestly, has been of incalculable value alike to the profession and to the public. And, lastly, the time is now coming when the efforts of the Council in the direction of educating students and pupils are bearing fruit. This is emphasized by the advent into the ranks of the younger practitioners of men who not only have been taught their profession systematically, but have had the seal of merit, proved by examination, set upon their period of pupilage.

In every community there must be some sacrifice of vested interests, prejudices, opinions, and precedent if ultimate good is to be achieved. I am convinced that the sacrifices made by the older members in the formation and development of the Institute have been justified by the results attained; and that these results have been brought about under a system of registration very much more quickly than they would have been realized by a purely voluntary or unincorporated body. I use the expression "purely voluntary" advisedly, for though with us there exists no legal compulsion to register, public opinion in New Zealand has become a compelling power—a power which has been indirectly created and fostered by the Act of Registration and the manner in which it has been administered.

The Institute, being impersonal so far as financial interest or advantage is concerned, is coming into its heritage as the guardian of the public welfare in architectural matters, as well as of the interests of its members. Its regulations, dealing with ethics, scales of charges, and the training and examination of students, are framed with this end in view. Moreover, the Institute stands for professional skill, integrity, and perfect service, and it has every reason to confidently rely upon its members to assist in bringing about the fullest realization of its ideals.

Post-War Committee—Preliminary Outline of Programme

THE Executives of the Post-War Committee are not at this time prepared to issue any document which might be considered as a programme. The field of investigation assigned to it is so vast that any hasty pronouncement would be certain to be misleading. In order, however, that advantage may be taken of the immediate public interest in "reconstruction" in every industry, the subcommittee presents this preliminary outline statement. *This is known to be incomplete and inadequate, but is published in order that organizations of architects throughout the country may know the general lines along which we are inclined to start the investigation and may, by their advice, help to fill in the outline.* In this way when finally sent out to every architect in the country in the form of a questionnaire, we may hope that because of its comprehensive nature, it will elicit valuable and helpful replies from every section of the country. This then is the draft in its preliminary state:

FOREWORD

1. It is the purpose of this Committee to study and suggest improvements which will affect the conditions and increase the efficiency and adequacy of architectural practice throughout the United States. The desire is to make the study cover the whole country and to reach every qualified person practising the profession of architecture, irrespective of whether or not that person be a member of one of the established professional organizations.

2. As a result of conditions preceding and consequent on the war, the practice of every vocation faces new conditions, and the time has come when each vocation must honestly appraise its true position.

3. The world is apparently searching for a way in which to make human relations more right—not in words, but in fact. The test of right relationship is being applied in a thousand ways.

The individual must appraise the value of the service he renders to his fellows, primarily through the measure by which the results achieved in the practice of his vocation are

effective. Thus, as architects, we must ask ourselves these questions: Are we in right relations:

- A. With those whom we would serve—the public?
- B. With those with whom we would cooperate in the production of a building?
- C. With those who render the same service—our fellow architects, the students of architecture, and, as professional men, with all those who render professional service?

The experience of the war has bared the weaknesses of long established methods of performance until institutions of every kind, hitherto thought to be effective, have been found wanting. The conditions affecting the building arts, at this time, therefore not only suggest but demand, that they be given the same searching analysis that is being given to every human activity, in order to bring it into right relationship with the new world in which we are to live.

In order that we may get the facts on which to base a forward-looking programme for our vocation, we ask every architect to cooperate with all his heart and soul, in the work of this Committee. An outline of topics suggested from many sources is set forth with the idea of determining a direction along which lines of discussion should proceed. It is the idea of the Committee that a digest of the opinions which it will receive from architects, either singly or through group discussions, will enable the Committee to present a more adequate document for the detailed consideration of all architects, which will follow later.

Subjects to be Included

A study of conditions affecting architectural practice seems to suggest the following main subdivisions:

- A. The Attitude of the Public to the Architect.
- B. The Relation of the Architect to Other Professions, Crafts, Industries, and Trades Organizations.
- C. The Relation of the American Institute of Architects to the Profession as a Whole.

D. The Relation of our System of Architectural Education to the Present-day Requirements of an Architect.

Under these main headings the following points have been suggested for consideration:

(a) *The Status of the Architect:* It is obvious that the status of the architect in the modern world is established for him (and not by him) as a result of the necessity for, and the value of, the service he renders. The main objective in any building operation is a completed structure serving adequately the purpose for which it is intended, measured in terms of appearance, utility and durability. More and more we hear it said that despite these facts, architects are so tenacious of their professional ideals that they are inclined to disclaim any relation to ordinary business or industry and their responsibilities.

(b) *Need for More Comprehensive Service:* The modern tendency of business, accented by the experience of the war, is to deal with larger organizations with one responsible head rather than with the several contributing factors that go to make up an organization to produce a material result. It is said that the architect has done nothing to meet this demand, but that engineers have, to an extent, done so.

The war has brought the whole world face to face with a situation which demands that production be increased and that resources and facilities be developed to an extent far exceeding the pre-war volume. The architect is said to have done nothing to coördinate his work with the movement for efficiency in production. The experience of the Construction Division, the Emergency Fleet Housing Division, and the Housing Corporation have demonstrated the great advantage of intimate organized coöperation of all the factors in building production in meeting the exigencies of a war emergency.

(c) *Business or Profession:* The claim is made that architects have persistently defined their services as distinctly professional, while in rendering a large part of their service, they really are business men. The existing American tendency is to measure the value of all effort by material performance—statistics as to costs, quantities, speeds, and mechanical achievements—which by comparison have a dramatic appeal. The public has no measure of value for

the more subtle service that, through the exercise of imagination and creative genius, makes these physical accomplishments possible.

Architects who have employed direct business methods, even to the point of becoming contractors, seem to have made a better understood appeal to the public, frequently to the detriment of good architecture. Something must be done to preserve both valuable elements.

(d) *The Purpose of Professional Organization:* Our professional organizations are said to have occupied their energies in the past in prescribing the exact terms upon which an architect may seek or accept employment and have not taken into account sufficiently the kind and quality of service the public demands and is willing to pay for, or the terms upon which the public is willing to engage such service under the ever-changing economic conditions that govern all business operations.

(e) *Responsibility:* A large proportion of building is carried on with borrowed funds. A reliable estimate of the cost of the completed structure is necessary as a prerequisite in arranging any scheme for financing its cost. Individuals are entitled to know in advance, approximately, what obligations they are entering into. Too many architects have been slow in realizing how vital is a reliable preliminary estimate in the success of a building undertaking.

An architect's estimate, even though correct, carries with it no financial guarantee that protects the owners or lenders in the amount of money they may be called upon to spend. The architect's status as agent of the owner imposes upon the owner full financial responsibility for all errors of judgment or defects growing out of lack of experience or ability on the part of the architect, except in such remote cases where it can be proved that the architect has failed to exercise due diligence and care. The architect's status is said to be not clearly enough professional, in the lay mind, to make apparent the reasonableness of this relation.

(f) *The Architect as a Citizen:* The architect, it is said, does not understand or sympathize with the viewpoint of business, nor does business understand the professional ideals of the architect. The architect does not take sufficient interest in business, political, or civic organizations. His ability, through his peculiar training and experience, to render service in these fields,

POST-WAR COMMITTEE—PRELIMINARY OUTLINE OF PROGRAMME

is little understood. Other more aggressive interests are therefore more closely identified in the public mind with the building world.

(g) *The Contractor's Function:* Great changes have taken place, in recent years, in the status of the contractor in relation to building enterprises. In important work the contractor now, generally, sells his services on a professional basis. His remuneration is understood to be for the use of his organization and its knowledge of the building business. This changes the relation of the architect to the whole building procedure.

The contractors have been quick to realize changed conditions and the desire of modern business to deal with one organization equipped to handle all phases of a building problem. Construction companies are therefore employing able designers and doing all work from the making of drawings and specifications to the financing, building, and furnishing of the structure. Under this new system, the average architectural organization dwindles in impressiveness. The service of an architect, where a contractor is selected on the basis of "confidence," is not required in the same degree as in the older method, to watch the performance of the contractor or to safeguard the expenditures of the owner. Nor is he so frequently called upon to adjudicate disputes that may arise between the owner and the contractor over interpretations of the contract obligations.

(h) *Advertising:* Without going into the controversial question of whether advertising of a certain kind is or is not proper for professional men, or dwelling on its potential abuses or advantages, the fact seems undeniable that of all the agencies interested in a building project, the architect's function is the least understood by the lay public.

Advertising seeks to accomplish a greater use or sale of any article or service. Such a result is attained in the business world by means of a liberal expenditure of money along recognized lines of publicity. The architect does not advertise. Between these two opposites, however, there must lie a fruitful field for study, to the end that architecture may be given a wider application and serve society in a more full measure.

(i) *Competitions:* The architectural profession is possibly suffering the consequences of

having encouraged, or at least officially countenanced, a fallacious method of selection—the competition. The efforts made to regulate its conduct and minimize its pernicious effects are merely superficial remedies applied to a condition that is fundamentally unsound. The selection of an architect by the comparison of his usually hastily prepared and inadequately considered drawings with those of others in the same boat, without any of them having the benefit of personal consultation or coöperation with the interests that are to use the building when built, puts a premium on deceit and meretriciousness, and confirms the all too common belief that architects are primarily picture-makers and neglect the considerations of good construction within or approaching the approximate cost, and the management of all the business details attendant upon such an undertaking.

As a part of this question, the methods by which architects are employed need study. There seem to be three ways by which they may solicit a commission: by the competition, as above described; by the social method of utilizing friends and acquaintances; and by the direct business method of soliciting employment, by making sketches gratis. Then, too, the schedule of professional charges has been supposed to be mandatory, or has been used by architects to indicate a compulsory fee to which they are bound, thus setting up an anomalous condition whereby the public is led to believe that all architects possess equal ability because they are entitled to equal payment.

(j) *Percentage Remuneration:* It is commonly said that the theory of charging for professional service on the basis of a percentage on the cost is unsound. While the cost of two buildings may be the same, the cost of rendering the architectural service for the two buildings would never be the same. A given percentage in one case might be too low and in another too high; further, the public cannot disabuse its mind of the notion that where a man's remuneration is based upon a percentage of cost, there will be a tendency, if not actually to attempt to increase the cost, at least to refrain from making an effort to reduce it.

(k) *Supervision of Construction:* Architects are said to devote themselves too exclusively to the study and preparation of drawings,

specifications, and contract documents, and to entrust the supervision of the work too largely to salaried employees. The owner's active interest is in the actual construction, not in the drawing. In watching the progress of the work he is thrown into closer contact with the contractor and the salaried employee, with the result that the value of the architect's service in connection with the actual construction seems unimportant to him.

(l) *Education:* Our architectural schools, in emphasizing the important features of design, science, and culture, have apparently neglected to train the students in practical business methods or practical building knowledge, with the result that a large proportion of graduate architects are utterly unprepared to render skilled service. Thus it would seem to be true that many young men gain their business and constructional experience at the expense of their first clients. There is a large question as to whether the practical application of scholastic training can be taught in schools or whether it must be gained through some system of apprenticeship or responsible association with more experienced architects.

(m) *Architectural Design:* There is a great problem before us in the frequently discussed question of new forms of architectural design appropriate to the new forms and materials of construction and suitable to the new ways of living, the new ways of industrial produc-

tion and the new social forces everywhere in evidence.

(n) *Extension of the Social Service:* All the professions have been criticized for having worked primarily in the interest of one class to the neglect of all others; for the rich or moderately wealthy and to a lesser degree, or not at all, for the poor. We know that probably a large majority of all building work in this country is carried out without the services of a competent architect. It is one of our most important problems to discover where lies the responsibility for this condition; with the architect's training and practices, or with the public.

The subjects outlined above are those that have been listed thus far for consideration by the Executives of the Committee. They will be glad to receive from any one suggestions of topics to be added to the programme, provided that these are pertinent to the purpose of the proposed investigation as outlined in the foreword. It is intended that the programme when completed (with an attached questionnaire) shall be sent to every architect in the country for his consideration and advice. In the meanwhile, subjects submitted for inclusion in the programme should be sent to the "Post-War Committee on Architectural Practice, The Octagon House, 18th Street and New York Avenue, N. W., Washington, D. C."

Notes by the Wayside

TWENTY-FOUR CENTURIES ago the Greeks perfected the Doric order and built the Parthenon, and in the Parthenon, perhaps, there are more subtle and carefully studied refinements than in any other building. The most subtle of these is, probably, the entasis of the columns, but the horizontal lines are crowned and the vertical lines are bent. It is no exaggeration to say that the Parthenon contains no really horizontal, really vertical, or really straight line of any proportionately great length. We know nothing of the methods by which these deviations were determined, either in amount or character. All our study has led to nothing more than conjecture and assumption. Seventeen centuries later, seven centuries ago, came the height of the Gothic period in France, the days of Amiens and Rheims. And in these cathedrals there are also subtle and carefully studied refinements; they contain few, if any, really horizontal or vertical or straight lines of any length. Marvelously, the profile

of the Gothic piers in some cases corresponds in character and proportion with the entasis of the Greek columns! The similarity is almost uncanny, considering the difference in time, place, and traditions of the workers. We know as little about the Gothic methods of determining the amount and character of these deviations and refinements as we do of the Greek. We assume that these practices, both Greek and Gothic, were prompted by the same motives—the counteraction of optical illusions, the modification of perspective effects, or merely to give pleasing variety to what otherwise might prove rigid and cold. We are quite sure, however, that the entasis of the Greek column and the refinement of profile in the Gothic pier, although often similar in proportion, were calculated for different reasons. We are quite sure that the entasis of the column was evolved for the purpose of producing an effect *in the column* itself, probably to avoid the optical illusion of concavity in the profile, and we are quite as sure

NOTES BY THE WAYSIDE

that the modification of profile in the Gothic pier was for the purpose of producing an effect in the nave or aisle, or the *space between* the piers, probably to increase the appearance of spaciousness and to avoid the seeming effect of falling-in at the vaulting by widening the nave as it went up. It is quite bewildering to try and think out what were the reasons that led builders of such different temperaments, and separated by so many centuries, to adopt, independently, such similar practices. Thinking about it must lead us to one conclusion, however; builders of ancient and medieval times, although they did not have the graphic facilities for study that we have, were much more careful in their foreseeing of results and planning to avoid unpleasant accidental effects than we are.

THERE ARE MANY who scoff at mathematics. In the words of Webster they make "that miserable interrogatory, 'What is all this worth?'" When we consider that the astronomer is enabled by his mathematics to determine exactly the recurrence of eclipses and other phenomena, that this determination depends, of course, on his *estimated* distances and sizes of the heavenly bodies, that since the phenomena are timed correctly, as we have oft-recurring evidence to show, the estimated distances and sizes must be very nearly correct, does it not show us that all this, the power of mathematics, brings us closer to the understanding of the infinite, that it brings us nearer to the satisfaction of the craving akin to

that expressed by Tennyson, "to know what God and man is"?

THERE IS A LANGUAGE which is almost universal and which, independently and shorn of its rather mysterious and involved affiliations, is not in the course of study of any school or college. We shall call it the language of the line. A knowledge of it will enable one to present an idea graphically—to make a diagram of an idea. It is, with music, the twin mother of all languages; to sight and hearing, they are universally understood, and yet there are those who consider the lack of knowing French a great shortcoming, and the ignorance of correct English a disgrace; who say with equanimity, "I never could draw anything and cannot understand a drawing." The trouble seems to be that drawing has usually been inseparably associated with "art," and that it has been taught by reproducing insipid copy in "drawing-books." The ability to draw can be acquired as easily as the physical ability to write. By drawing is meant here merely the description of things by lines instead of words. There are often times when three lines will describe more than thirty words, and anyone who can write the thirty words should be able to draw properly the three lines. Let the language of the line, drawing, be separated from the idea of art and pictures and one of the fashionable accomplishments to be acquired at young ladies' seminaries and be raised to the dignity of the "three R's."

The Hazards of Walking

By H. WEAVER MOWERY

How, in so complicated a business as building, shall a proper balance of essentials be kept, with enthusiastic specialists each vigorously pursuing their particular activity and each careless of the other?

For instance, fire-safe construction, though of vital importance, occupies a preëminent position in the minds of all associated with building design. This condition has been brought about through unremitting publicity and agitation by manufacturers of fire-proof materials of all sorts, the formation of national associations for fire-prevention, the publication of magazines, and kindred activities. But in obtaining this wonderful result, is it not possible that other matters of perhaps equal importance, lacking the organization and the publicity, came to be more and more neglected until finally almost entirely overlooked?

The problem of providing safe walking surfaces seems to have been eclipsed in this fashion. We have come to take it as a matter of course when a person falls downstairs and is severely injured or killed. A short time ago, in Chicago a leading building contractor fell downstairs and died within a few hours. Exactly five and one-half lines was the amount of space given in the newspapers announcing this fatality. But when an individual is cremated in a burning building, a special representative of the press is assigned to the story, and we get two or three columns with glaring headlines. Yet there are more than

twelve times as many people killed by falls as there are in burning buildings! For instance, in Chicago, in 1915 there were eight people killed in burning buildings, while 154 were killed by falls on floors, stairs, and sidewalks, other than through slipping on ice and banana-peels. In New York (Manhattan), 816 deaths through falls on stairs and sidewalks have been reported to the Coroner's office in five years—1912 to 1916 inclusive. Statistics from the Labor Departments of the four states, Massachusetts, New York, Pennsylvania, and Ohio, show that slipping and tripping injured as many workmen as were injured by cranes, gears, belts and pulleys, planers and jointers, ladders and elevators all combined. In the state of Ohio, slipping and tripping casualties in the industrial plants cost approximately \$153,000 for compensation, hospital, and medical expenses alone. Such figures show beyond a doubt that something is wrong with the surfaces upon which people must work and walk, or with people themselves.

A casual tour of inspection reveals amazingly unsafe conditions in tread surfaces. Architects and engineers are not responsible for all of these unsafe conditions. Terrazza floors, if properly cleaned, are not unsafe, but if the janitor or superintendent of a building will persist in using soap-powder instead of the proper sort of floor-cleanser, such a surface is dangerously slippery and, of course, the designer of the building is not responsible for such a con-

dition. But there are many conditions coming directly under the supervision of the architect and engineer which can be corrected by those charged with the supervision of the designing and the specification of the materials.

An analysis of the casualty reports from sixty-five companies in twenty-two different states, by the Accident Prevention Committee of the National Electric Light Association, shows that slipping, tripping, and falling was the greatest cause of disability accidents (28 per cent of the total). More than twice as many casualties resulting in "lost time" were caused by falls as by the next highest cause. And it should be noted that falls are not usually from high places such as scaffolds, temporary supports, or poles, as is usually thought, but 32 per cent of all falls occurred on stairs and floor-levels.

Whether stair accidents are caused through the carelessness of the individual, or because of improper tread and riser dimensions, or through unsafe tread surfaces is a question often raised. The experience of the Pennsylvania Railroad is very interesting. It conducted the only authenticated service test of which there is definite knowledge, to show the merit or demerit of a type of tread from a safety viewpoint. On a newly constructed stairs, equipped with one type of tread, 141 accidents were reported in less than two months. The type of tread then was changed and not a single reported fall in the three months following. There was no change in tread or riser dimensions, no additional hand-rails were put in, lighting conditions were the same as before the accidents ceased, and it is to be assumed that the people were just as careless and were in just as great a hurry. But the change in the type of the tread alone was responsible for the elimination of falls in this case.

It is essential that the nature of the material of which stair treads are composed shall be such that slipping on them will be prevented and wear reduced to a minimum, but, in addition, it is well to conform to some universal standard of tread and riser dimensions.

On floor-levels, it will be found that the most prolific

cause of falls is through slipping on inserts of cast iron and steel, such as door-saddles, trench-covers, drainage-gratings, expansion-joint covers, floor-plates, coal-hole and man-hole covers, and kindred surfaces.

How to prevent falls on floor-level is a complicated subject, and related to it are such problems as "good house-keeping," which means materials properly piled in safe locations. Pieces of sharp-edged stovepipe, especially in a factory passageway, are decidedly hazardous, and their presence at such places does not constitute "good house-keeping." Other items related to safe walking are such as projecting siamese sprinkler connections or unguarded areaways, all constituting serious hazards.

At a recent meeting of the American Society of Safety Engineers, they passed unanimously a resolution as follows:

"WHEREAS, Slipping and tripping hazards are a most serious menace and prolific source of industrial and public casualties, causing a great economic waste and untold suffering which it is desirable to reduce or prevent, therefore be it

Resolved, That it is the sense of this Society to recommend suitable provisions to eliminate existing and to prevent future slipping and tripping hazards, and be it further

Resolved, That surfaces of cast iron or steel, on which people walk or work, constitute dangerous hazards which should be prohibited unless an effective anti-slip element is embodied in the wearing surface of such tread materials."

Such action as that denoted by this resolution becomes all the more emphatic when we note that there is embodied in the laws of two states, and in the building code of the largest municipality in the United States, provisions which require that "all stair treads shall be so constructed and maintained that persons walking thereon will not slip."

It is of urgent importance to give careful consideration to the nature of materials used where people must walk or work upon them. This phase of accident-prevention has been neglected; it must now claim consideration by men who give true service in building.

War Memorials

At the present moment an unusual and very wholesome activity is concerned with the subject of War Memorials. On the whole, the general suggestions put forward are very sound, but one discovers an inevitable tendency to sound the praises of the expert. This is well, as far it goes, for expert services are needed before any suitable memorial can take form, but what is needed more than any of these things is a national consciousness seeking to memorialize a spiritual experience,—for unless the movement to build a memorial is quickened by the deep stirrings of the sacrifice we and all others have made to a common cause, what hope is there that our memorials shall stand before the coming generations as witnesses of the havoc and suffering and anguish which all the forces of modern civilization—churches, colleges, and governments—could not avert. All were powerless to stay the

slaughter. Is it too much to hope that the memorials of this experience will fail utterly to glorify war, and victory, and while still paying homage to the heroism of men, also point the thoughts of the world to a kind of humanity and brotherhood which will refuse ever again to adopt war as a means of settling any issue?

To that end, is it not important to consider forms of memorials where men and women and children may meet and congregate for work and play, and where they may discuss and fraternize? Let us have memorials that will bring men together in a common experience and not leave them cold with the frigidity of monuments that lose their power to influence almost as soon as the mortar is dry in their joints. Let us forget the imperialistic ruins of Europe, and build something democratic, for if anything is certain, we may be sure that our men did not die in

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order that they might be glorified in bronze or stone. They died for Life, for more and better life, warm, fresh and vital in the living—that must be our memorial to their sacrifice.

Why Arches?

TO THE EDITOR OF THE JOURNAL:

On the subject of war monuments, the Institute has moved to mitigate the offences which will inevitably spring up all over the country in the name of patriotic recognition of the valor of those who were in the great army.

The ambitious communities talk of building "victory arches," but why arches? The watchword of the war has been, "To make the world safe for democracy." Where does the victory arch typify that inspiration? The great Roman arches, built to commemorate the imperialism of a dominating empire, the prototypes of the arches now proposed, certainly are, in spirit, far from our ideals of today. Had our enemy triumphed, victory arches at the gates of Paris, London and New York would have seemed the fitting memorials of imperialistic triumph.

Can we not find some democratic expression of commemorating the deeds of a nation, not some personal memorial to any man or set of men? For the personal memorial the bronze tablet in the home neighborhood of those who died in service seems fitting, but no blatant, prideful monument of stone that we can set up seems to echo the spirit of the war.

Why cannot the spirits of those who have gone on look upon some peaceful ground set aside as a park and kept beautiful for those whom they have left here, or why cannot some district near each of our great cities be forever dedicated to pleasant homes? These would be living, democratic memorials and would make good in the future our promise that we really meant something when we talked of winning the war to make the world safe for democracy.

Very truly yours,

FRANCIS J. MACDONNELL.

Philadelphia

A conference with the leading associations of artists in Philadelphia was called in November, under the auspices of the Philadelphia Chapter. The purpose of this conference is expressed in the following resolution:

Be it Resolved, That, in view of the probability that the Declaration of Peace will be marked by celebrations, and by memorials both temporary and permanent, and in order that the services of the foremost artists of the country be utilized in the designing and directing of these, we urge upon all National, state, and municipal authorities, and upon the public in general, that such designing and directing of design be entrusted only to architects, sculptors, and painters, of the highest standing, the selecting or naming of whom should be left to a committee formed from their own recognized associations, which committee could cooperate with any existing art committees, either National, state or municipal.

Since the adoption of the principles thus expressed, the movement has crystallized into the form of an organization composed of duly appointed artists or professional members under the title of the "Advisory Council of the Art Associations of Philadelphia," Mr. Wilson Eyre, Chairman, Mr. Horace Wells Sellers, Secretary, the societies being represented as follows:

Fellowship of the Pennsylvania Academy of the Fine Arts: Messrs. J. McClure Hamilton, Nicola d'Ascenzo, and Miss Violet Oakley.

Philadelphia Chapter, A. I. A.: Messrs. Wilson Eyre, John P. B. Sinkler, Horace Wells Sellers.

Philadelphia Sketch Club: Messrs. Wm. F. Gray, Joseph Pennell, Edwin H. Fetterolf.

T-Square Club of Philadelphia: Messrs. Howell Lewis Shay, Albert Kelsey, and Chas. L. Borie, Jr.

The Art Alliance: Messrs. Paul King, Charles Grafly, and Miss Violet Oakley.

The Alumni of Pennsylvania Museum and School of Industrial Arts: Messrs. Otto F. Ege, J. Frank Copeland, and Charles Scott.

As indicated by the resolution, the purpose of the Council is to consider means and take active measures toward the improvement in design of war memorials which will be erected in commemoration of events or in honor of individuals. Through its activities it is hoped to secure an intelligent consideration of such works, and already the Council is formulating a scheme for the proposed victory pageant to be held in this city, following the signature of the treaty of peace, and it is proposed that this pageant shall constitute also a fitting celebration of the opening of the parkway now nearing completion.

While the parkway in itself affords an interesting opportunity for embellishment as a court of honor through which the processions will pass, its termination at the elevated site of the proposed art museum provides a setting for an impressive spectacle which it is intended shall form the climax of the celebration. The scheme when developed will be offered by the Council to the Committee on Celebration of World Peace, appointed by the Mayor at the request of the Philadelphia Council of National Defense.

Alabama

Members of the Alabama Chapter, American Institute of Architects, have offered their services, through the Birmingham Civic Association, to the city, gratis, in advising any committees or organizations who wish to erect public memorials and monuments.

Mr. Warren, President of the Alabama Chapter, pointed out that architects had only the interest of the city at heart, from an artistic standpoint, in offering their services to builders of these public memorials and improvements. The Alabama Chapter has appointed a committee whose services will be available without charge in helping to design prior to the awarding of contracts for the contemplated improvements. This committee was appointed so there would be no hesitancy on the part of committees seeking advice along these lines.

It is expected that a committee of the civic association will appear before the city commission asking to have an art commission created, to be on a voluntary basis; all petitions for privilege to erect monuments and memorials will be submitted to the commission.

A Park for a Memorial

According to statements in the press, the village of Port Chester, N. Y. has initiated the purchase of 41 acres of land to be set aside and developed as a memorial to the soldiers from that village.

Community Houses as Memorials

The War Camp Community Service is collecting data and suggestions relating to community houses for soldiers' and sailors' memorials. There are now some 400 representatives of the War Camp Community Service distributed

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around the country and eventually there will be 600. The Committee, in issuing a circular on the subject says:

"Any memorial should be built of permanent materials such as stone or brick and be fireproof—for it should of its very nature be permanent. In old established communities where there is an architectural tradition exemplified by the older buildings in the town the memorial should conform to their general character; in new communities without that background of tradition, the dignity and good taste of the memorial structure would go far toward establishing a standard for other new buildings. When the building fund is small, there should be no attempt at display; the heroism, the supreme sacrifice, of which a memorial perpetuates a reverent and tender memory, are not tawdry; there should be therefore no tawdry ornament nor cheap and showy substitutes for good materials used. It is of importance to select the best architect available. In small communities it may be found advisable to seek him outside; a worthy memorial is of more importance than a narrow local pride. There are two methods open in the selection of an architect: (1) His direct selection on the basis of his proven worth as designer and executant, his integrity and business ability; (2) His selection through competition. Where two or more architects may lay claim to the equal confidence of the community, a competition will probably prove to be the solution of many delicate personal problems; in any case the competition should be conducted under the standard program of the American Institute of Architects (obtainable by application to the Secretary of the Institute, The Octagon, Washington, D. C., or by application to the nearest Chapter of the Institute). This program contains those provisions essential to the fair and equitable conduct of a competition. It insures proper contractual relations between the owner and the competitor. Under it the competition requirements are clear and definite. The competency of the competitors is assured; the agreement between owner and competitors definite, as becomes a plain statement of business relations; and the judgment would be based on expert knowledge."

This activity is being aided by the Institute's Committee on Post-War Memorials, which proposes to establish, if possible, competent jurists throughout the country to whom memorial projects may be submitted as early in their inception as possible.

Circular of the American Federation of Arts

The Federation has issued an excellent circular on the subject of War Memorials, copies of which can be obtained on application to the American Federation of Arts, 1741 New York Avenue, Washington, D. C. The circular announces, among other things, that a Special Advisory Committee is to be appointed, the services of which will be made available to those seeking them. Also that War Memorials will form the main theme of the next Convention of the Federation, in May.

A Base for a Flagstaff

It has been suggested that one simple form of memorial would be a stone or bronze base for a flagstaff, which, if erected at a point where it would invite open-air meetings and discussions, would offer a memorial possessing an enduring influence.

Correspondence

"The Meaning of Architecture"

TO THE EDITOR OF THE JOURNAL:

I note in the columns of the Journal, with the awe which overpowers one in the presence of super-knowledge, howbeit awe tintured with amused interest, a review of my little book, "The Meaning of Architecture;" and I take the liberty of "reacting" to it because, appearing as it does between the covers of the Journal of a great professional body which is supposed to foster the art as well as the practice of architecture, it might otherwise exercise, possibly, a prejudicial influence upon the layman whose absent gaze might incidentally be directed to it. Architectural readers will recognize readily enough the historical and technical limitations of the reviewer; while the limitations of the author of the book have been apparent to most of them, through the medium of the architectural press and otherwise, throughout a long series of years.

Your reviewer starts out with the statement that "the author gives evidence throughout the book of a deep love of art, of lofty purposes, and of genuine and worthy reactions to the noble monuments of the past." Then he remembers his office, reverses himself, and begins a specific condemnation of those "lofty purposes" and "personal reactions" which he had just permitted himself to commend; and he proceeds to "show why" the reversal of form by quoting some passages which, detached from the stream of the argument, lend themselves, as detached passages readily do, to misinterpretation and superficial comment. These quotations bear only upon the author's "reaction" to certain Greek forms, while the lesson which the book

is intended to convey—the lesson of individual and communal reaction to worthy art—is absolutely ignored; probably not in the least comprehended.

Concerning the full treatment of that particular subject upon fragments of which your reviewer sees fit to expend his entire critical charge, another reviewer (in the *Art World*) has said: "At the outset Mr. Pond possesses the inestimable advantage of *knowing architecture* and there is no question but his remarkably sympathetic interpretation of the reasons involved in the evolution of Greek architecture must illumine and even thrill the esthetic perceptions of his lay readers." That is one reviewer's opinion on the minor theme of the book, and I quote it for what it is worth as against the opinion of the Journal's reviewer.

Let us note the stock which the Journal's reviewer displays upon his intellectual shelf. Well, he exhibits a certain perspicacity, of which he himself is quite unaware, when he characterizes as "almost like a bit of super-solemn Alice in Wonderland" a sentence which anyone else would know was interjected with humorous, not to say whimsical, intent. Your reviewer's rare mind blindly sensed the situation.

Now, as to the masculine and feminine in Greek architecture: I am not responsible for the very general ascription of masculine characteristics to the Doric order and of feminine characteristics to the Ionic. I have met it in my reading on architecture from the very first; and so general it was that I do not see how even a superficial reader could have missed it (unless he were a reviewer [this is a bit of super-solemn Alice]), but never have I

CORRESPONDENCE

been furnished an analytical or literary clue. Is it a crime that I should seek an interpretation, and, finding one which appeals to me, that I should share the pleasure of it with one who should really "like that sort of thing"?

And then as to the Ionic entablature which I might have diagrammed (as an engineer might diagram the forces in a beam—though, your reviewer to the contrary notwithstanding, I did not) a fairer impression might have been conveyed had the reviewer reproduced the whole plate instead of building up a fragment of it from an unsympathetic font of type. (That seems quite to be his method—to convey ragged impressions by presenting his own drawing of detached fragments.) It is not, however, to the diagram and its mistreatment that I desire to direct attention, but to the humorous lack of historical and structural knowledge of the entablature displayed by the reviewer. Let me quote him:

"Now the plainest of plain men would not find anything startling in the fact that when a beam is laid across supports—here they are columns—one wouldn't cut them up so as to weaken them actually or in appearance, but that after horizontal courses had been laid it would be quite practicable and pleasing to decorate the further horizontal courses with vertical markings, since a continuous support has been supplied. The aforesaid plain man would not have thought of compression or tension and neutral zones, and it is highly probable that the Greek of the entablatures did not either. Of course I don't say that they did not. I don't know anything about it. I can only say that I find that kind of elaborate, unhistorical, and apparently fantastic explanation of the obvious as tedious as it is futile."

I dismiss the tedium and futility as factors of a personal equation. I pass over (another bit of Alice) the evidence of the reviewer's unfamiliarity with English and facts, confusing us as to which the plain man does not cut—the beam or the supports—and as to whether the Greek or the entablatures did not think, and proceed to the "obvious." Obvious to whom? Was the Greek method obviously the one to be employed by the Egyptian? Then why did the Egyptian so generally cut the face of the lintel down to the lower edge with decorations which minimized or obscured the structural function? Was this Greek treatment obvious to the plain man of the Middle Ages? Then why did he so consistently ignore it? The beam was not an element in the major medieval structural scheme; but it was of necessity employed—somewhat in ecclesiastical, widely in civil and domestic building—and was cut and carved for purely decorative purposes in such manner as to weaken it, not only in appearance but in actuality. Detailed citation is not necessary; outside the realm of Greek influence the practice was general. Obvious? It seems not to be so frightfully obvious that the forms of the Greek entablature developed through deep feeling for structure; some need to have the fact pointed out to them. If they don't believe it nor see how it affects the design, it becomes "tedious" to them. By the bye, I wonder if the telephone, the phonograph, the Marconi, and the airship were obvious to your reviewer a few years ago—they are so obvious now that it must tire him to hear of them.

As to turning the architecture of the country over to

the engineers, if architects are to idealize or dramatize structural forces in their buildings, that does not worry me. I was an engineer: civil, by instinct and education; structural, by wide and important practice. The C. E. which I am privileged to append to my name is not an honorary degree but an honorable mark gained by hard study and some service. I know the engineering mind and respect it,—respect in it the power to conceive a useful thing and go to it with directness; but I respect, to the point of reverence, the architectural mind which conceives the useful thing in the spirit of beauty—a very different matter from cloaking useful forms with superficial ornament. How the architectural mind may react to the spirit of beauty, to the lasting benefit of itself and society, and how society and the individual may find themselves clearly symbolized or typified in architecture, I tried to set forth in the book. All this your reviewer, in stubbing his intellectual toe on a splinter which he himself kicked up, has missed.

As to the gentle slap administered in his last paragraph—if calling the architecture which my firm has produced in these past years and the influence which it has exerted toward simplicity and directness of style—if calling this a "blight" on the profession can be denominated a gentle slap—I have little comment to make. I may say, however, that I accept all the responsibility. I shall not shift it onto the American Institute of Architects which, in spite of my well-known philosophy of art and my executed works, kept me for years at its council board, making me twice its president. I absolve the architectural press of this country, and that portion abroad, which has sought my work, both in design and in "minor literature." I say sought, for I have never offered, unsolicited, an article from my pen, a drawing or a photograph of any of my work to any architectural publication. And yet many articles of mine and much of the work of my firm have been published and reviewed in a spirit of fairness and have called forth commendation from individuals and societies. One building was awarded the gold medal of a Chapter of the Institute; and I have been asked to serve and have served on national and international juries of art. "And so" from the "blight" of my teachings the profession has been and will be secure! By just what authority does your reviewer assume to speak for a profession in the pages of a professional journal? Please mark that "and so," as appearing in your review, especially in the last sentence. Does not it "seem a fair measure of" your reviewer's "critical and scientific reasoning"? Once more as to the "blight of my teachings;" realizing the enormity, as now I must, I should be overcome with remorse that the American Library Association has seen fit to list my book and place copies in many army camp libraries—and I weep to read the words of the Springfield *Republican's* reviewer: "The public, as well as those engaged in the profession of architecture, needs just such stimulating leadership in regard to general principles as Mr. Pond is able to afford!" I ought to weep—but I do not.

IRVING K. POND

TO THE EDITOR OF THE JOURNAL:

I am sorry that I cannot agree entirely with Mr. Pond's strictures, for if I could I should merely say, "You are right, Mr. Pond, and I am wrong" and we could let it go

at that. But there is only one statement in his letter with which I can cordially agree. He says, in effect, that I know nothing about architecture, and on that point our opinions are absolutely at one. I said as much to the Editor when he asked me to review Mr. Pond's book and another, but the Editor answered that in these books the problem was rather social, educational, and esthetic, and not technically architectural. It was with this in mind that I undertook their consideration. Mr. Pond quotes a review which says that "his interpretation of Greek architecture must illumine, even thrill, the esthetic perceptions of his lay readers." I am one of those lay readers, but I regret to say that my response is not according to prescription. Whose the fault—*Quien sabe?*

In answering Mr. Pond's letter I shall make my notes serial, following the order in the letter.

Firstly, Mr. Pond is not in "the presence of super-knowledge" but only in that of a modicum of intelligence. He may not agree to this but such is my opinion.

Secondly, I mean the commendatory passages to continue valid throughout. I never question either the love, the purposes, or the personal reactions, but only the interpretations.

Thirdly, I do not question the "masculine and feminine" in certain Greek forms, but I do find Mr. Pond's interpretations to be anthropologically and psychologically fantastic, and these "interpretations" are not matters of architecture but concern these other disciplines. Nor do I suggest that his interpreting them is a "crime," even though I do believe that his interpretations are blunders.

Fourthly, concerning the obvious. Mr. Pond has never given to the notion of the obvious the attention it deserves. I can assure him that "the telephone, the phonograph, the Marconi, and the airship" were not "obvious" to me "a few years ago," that they are not "obvious" to me today, and will not be "obvious" to me if I live a thousand years. The familiar and the obvious are two very different concepts. It is a commonplace of popular speech that people often fail to perceive the obvious. The fact that people often cut the beams illogically is an instance of this. But to have discovered a mare's nest in explanation of the obvious is another matter, and that I believe Mr. Pond to have done.

Fifthly, as to my failure to perceive that Mr. Pond is concerned with the Spirit of Beauty and the ways in which "society and the individual may find themselves clearly symbolized or typified in architecture." It would seem that one must be explicit in talking to Mr. Pond. My review was concerned exclusively with that, and the instances cited were intended to bring out clearly that this kind of symbolization is psychologically and historically false.

Finally, and to be very serious. Mr. Pond has no shadow of warrant in saying that I called the architecture that his firm produced, and its influence on the profession, a blight. I said not one word about his architecture or its "influence towards simplicity and directness of style." I was concerned exclusively with Mr. Pond's method of interpretation, and I used the term blight in relation to a certain method of deliberate, conscious, symbolization that he advocates. If that be unfair, unintelligent, or otherwise reprehensible, let Mr. Pond make the most of it.

LEO STEIN.

P. S. This is a matter of interest to Mr. Pond alone, so I add it in a postscript, but it is true in respect to the "Alice" passage that I at first suspected it of being humorous. A comparison with other statements of unquestionable sobriety changed my opinion. However, Mr. Pond may substitute the passage about the symbolism of the Doric flutings, unless that, too, is a whimsy. L. S.

A Letter of Thanks from Major Evarts Tracy

As the last one remaining of the 40th Engineers in this country, I cannot sufficiently express my gratitude for the willing aid and assistance given by the architectural profession through the Institute; their help has been of the greatest value to the service in procuring the much-needed personnel for the Camouflage Section of the Army. From the inception of the service, the Institute placed at the disposal of the section its entire organization, assumed the expense of printing and postage, and donated the labor of its personnel.

When the writer returned to the United States in October, with orders to recruit two two-company battalions, consisting of 1,048 men and 64 officers, all men of special training, and to send the first one over on December 10, it was said in France it could not be done. The same comment was made here, and owing to the epidemic of influenza, which held up the draft, and certain changes made by the General Staff regarding inductions, it was certainly a difficult proposition. However, the Institute immediately started its work, and there was such a patriotic response from all members of the profession, whether belonging to the Institute or not, and the artists and sculptors as well, that by the time of the signing of the armistice we had over eight hundred men in process of induction, one complete battalion and more than three hundred as a start for the second, slated for departure in February.

We, in France, expected to fight at least all next summer, and it was somewhat staggering to have the end come so quickly. As a whole, we have had luck, though a few of the best now lie in France, and there are many who bear the scars of shell and shrapnel, as well as those who will never be the same as before they passed through the worst experience of all—mustard gas.

A great many architects have thought, I find, that we wanted architects for architectural work. In the haste of organizing I did not make our needs perfectly clear. The qualities needed in a good camoufleur are: leadership, ability to handle men, color sense and artistic perception, ingenuity and common sense. The engineer often has most of these qualities, but is apt to lack the artistic ones. The artist has color sense and artistic perception, but often is not accustomed to handling men. Of course, there are brilliant exceptions, as we found in our own outfit, but all of the allies, as well as our own higher officers, have stated that the architect, on account of his training and experience generally, makes the best camoufleur.

Camouflage, and the French artillery motto will hold good: "Une batterie vue c'est une batterie perdue."

[Signed] EVARTS TRACY,

Major, 40th Engineers, U.S.A., Commanding.

Planning in Australia

By NILS HAMMARSTRAND

THERE are countries where the resistance offered by indifference, ignorance, or contemptible selfishness still forms a mighty obstacle to the sure ultimate triumph of the now world-wide movement for rational city-planning, and where, therefore, its final victory still seems comparatively remote. There are other countries where the movement already has passed through this initial stage, and where the practical results already achieved presage that the universal ascendancy of city-planning—or, perhaps, even country-planning—will be one of the greatest features of the present century.

Again, there are countries where this agony of birth, this painful conflict between reason and unreason, between great aims and small aims, seems in process of being alleviated through the influence of some regulative constitutional element. In Germany, it is the aptitude for organizing, and sometimes over-organizing, all human activities which has rendered this service; in England, it has been the national common sense which has helped to insure to city-planning on a scientific basis its rightful place among the most vital concerns of social life. In regard to England, it may even be opportune to say that the time may come when its "national glory" at the present moment will be measured rather by the number and quality of the workmen's houses it has built during the war than by the number and artillery equipment of the surrendered German warships. In that better future, for which many of us hope and some of us work, it will then also be told how even the remotest of the British dominions not only participated in the bloody sacrifices of their motherland, but also received an impetus from its impelling upbuilding energy. That this energy has been redoubled through the imperative demands of the war should, however, not becloud our sight. The spectacle of a Britain that has "leaped forward a hundred years in method, in organization, in planning in advance, in housing, health and, above all, in outlook" should not make us fall to the temptation of drawing the dangerous inference that war is "a biological necessity." At least, there is not much hope for humanity if such monstrous catastrophes are indispensable for making us clear-sighted and premeditative. To acknowledge this would be to admit the necessity of degrading men to the very lowest level of unreason and ferocity in order to make them really progressive! Only the most abject, incurable misanthrope will be ready to accept so pessimistic a tenet as a rule to govern our actions.

The words just cited, characterizing the English progress during the war, occurred in a presidential address delivered some months ago at the Second Australian Town Planning Conference in Brisbane. It was on this occasion that one of the organizers of the conference, Mr Charles Reade, Government Town Planner, South Australia, made the following statement: "One of the essentials towards the practical application of Town Planning in Australian States has been recognized and given effect to since the first Conference and Exhibition in Adelaide last year, by

the South Australian Government—namely the making of Town Planning a Permanent Department of State, and renewing the appointment of a Government Town Planner. It rests with delegates to this, the second gathering, to say whether or not they would approve and recommend that a similar step be taken in other States in The Commonwealth *as a prelude toward further developments.*"* The first conference, it might be recalled, indirectly affirmed the principle of a Town Planning Department, when, after prolonged discussion, it unanimously agreed to the resolution which reads: "That full Town Planning powers be conferred on local authorities, with the right to control by the State Government."

We have italicized "as a prelude toward further developments" with a view to emphasizing the rational character of the Australian procedure in securing city-planning. To the Australian city-planning pioneers it has been self-evident that whatever differences of opinion there may exist regarding the best way in which to direct, govern, and control the complicated process of city-planning, results can be achieved only on the solid basis of a well-constructed administrative foundation. Already we see this foundation in course of being constituted in the young Australia, while in some countries it still seems a long way even to a mere recognition of its indispensability. Certainly, Australia is to be congratulated upon taking, at the outset, this decisive step in the right direction, and all the more as, since in so doing, it is by no means merely imitating England.

Another quotation from Mr. Reade's paper on "Practical Town Planning" may serve to illustrate the Australian attitude: "Now the gist of all town-planning practice and application is mainly centered in and governed by 'Procedure'—the manner in which the authorities shall proceed to prepare a scheme and carry it through the successive phases necessary to formulate, discuss, amend, and secure adoption, if possible, by all concerned, before it can be brought to the Minister for consideration, and finally authorized. 'Procedure' is an all-dominant factor, for not only does it determine the form and character of the scheme, but, in addition, settles the main lines on which it shall be carried out. In other countries (i. e. Britain, Canada, etc.), the responsibilities and functions of 'Procedure' are divided between the central authority and the Councils. In the case of Britain, the Council is obliged to act under the absolute direction of the local Government Board and its 'Procedure Regulations,' which in practice are most cumbersome, over-cautious, and cause prolonged and needless delays. At present these regulations are undergoing severe criticism at the hands of authorities, and the Local Government Board has been invited by representative bodies and institutions to radically amend them, as well as the Act itself. Canada has considerably modified and simplified procedure. There is no reason why Australia should not go one better. This, under local conditions,

*The italics are mine.—N. H.

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seems quite possible of realization without sacrifice of essential safeguards to owners and objectors generally."

In Australia, as in England, the division of the control of towns, and particularly of metropolitan areas, especially complicates the problem of effective town-planning control. At the first Australian conference, in Adelaide, Mr. Reade strongly emphasized the point that the British system of control is very unsatisfactory when attempting to deal with a city and suburbs controlled by many authorities. "Canadian States," Mr. Reade said on that occasion, "have also found that in adopting town planning Acts based on English practice, the problem of divided authority remained unsolved. Canada found that these Acts in themselves were insufficient to formulate plans for the improvement and development of cities. Town planning Commissions on the American model have been appointed in addition." Mr. Reade also referred to the fact that "many large municipalities in Britain, such as Greater Sheffield, have removed the difficulties of divided authority in town planning by bringing unbuilt areas under the control of one metropolitan council."

These quotations—which, if space allowed, could be supplemented by others from Mr. J. Garlick's paper on "The principles of Town Planning Legislation" and from various critical comment made at the conference—may suffice to show how seriously the Australians are wrestling with the difficult problems which the establishment of a well-adapted, effective "city-planning constitution" presents.

Other aims of this conference and of the preceding one have, of course, been to afford opportunities for ventilating city-planning questions generally, to stimulate enterprises aiming at practical accomplishments, and to arouse a proper realization of their urgent necessity. In regard to actual achievements, the president of the conference, Mr. J. D. Fitzgerald, Minister for Local Government and Public Health of New South Wales, made, in his opening address—a quite remarkable speech of its kind—reference to the extensive plans for the improvement of Sydney which at present are in process of preparation, to the general planning bills which have been drafted in nearly every Australian state, to the Greater Sydney and the Greater Brisbane Bills, finally to the creation of the garden suburb of Daceyville near Sydney, to Dr. Price's scheme for a garden city at Darra, which was exposed and discussed at the conference, and to the recent plan for the Mitcham suburb by Mr. Reade. In this connection, the international competition, which was held a number of years ago with a view to obtaining suggestive plans for an Australian Federal Capital, should not be forgotten. The official Transactions of the Conference will certainly, when forthcoming, give a more complete idea of the Australian aims and achievements.

In Australia, as everywhere else, the great cities, with their often insufferable conditions, the consequence of indolence and neglect, are the primary objects of the aims of the city reformer. Though lacking first-hand knowledge of city conditions on the Australian continent, we should venture to suppose that, in regard to deficiencies, they will, in the essential, offer a pretty close parallel to those prevailing in the great urban agglomerations of this country. The abnormally rapid growth of the industrial and com-

mercial centers of a quickly developing "new land" will there, as here, have produced cities which not only appear to be, but really are, "substantiated negations of rational city-planning principles." Incidentally, in the great cities of the Old World, the external appearance is generally better, but even in the most progressive ones, the actual conditions disguised behind a better exterior are only too often very much the same. Thus, this phenomenon being world-wide, we are not at all surprised at hearing that Hobart and Perth are "two capitals which must be radically replanned in order to meet the demands of their future," or that Sydney's plan is out of date and her suburban roads a byword, or that Brisbane is a planless city. We know well what this "planless" imports and can sympathize with the sufferers. We can also sympathize with the Australian city-planning pioneers who, in cheerfully shouldering the task of helping to relieve the suffering, voluntarily face the jeerings of the hostile and the sneers of the ignorant. As regards this special phase of the matter, Australian and American conditions are undoubtedly, again, very much alike, and they are on this point really different from those prevailing in the most progressive European countries. There, the recognition of city-planning as one of the fundamental problems of contemporary civilization is now so firmly rooted that its practical application is generally avowed, even among "the most practical men," to be "perfectly good business." There the city-planner is no longer derided, but he who wants to perpetuate standards of conduct fit for the Middle Ages will be laughed at. Moreover, even in the most democratically governed European countries, the disastrous influence of party politics in matters of civic improvement is, as well known, infinitesimal compared to its paralyzing effect in the United States and, perhaps, also in Australia. The boundary-lines between the various influences which in the New World counteract the development of a truly progressive civic spirit are, however, very difficult to draw. Ultimately, these influences may, all of them, be traceable to the widely prevalent conception of the rights of the individual as their main source, a conception which the European mind is inclined to stigmatize as antisocial, while fully aware of its being the consequence of a different historical development.

In this connection it is very much worth while to quote one or two more passages from Mr. Fitzgerald's address. Their slightly sarcastic tone allows us to look forward to the brilliant opportunity that will be offered to a satirical pen when, some time in the future, there will be written the history of the great city-planning movement whose beginnings we witness; one of the most interesting chapters will have to be devoted to the gradual expansion of the idea of having town-planning become the spiritual possession of civilized humanity as a whole. "The heaviest task of the first conference," said Mr. Fitzgerald, "was to convince a doubting public that we were not a mere board of dreamers and enthusiasts, aiming at impractical esthetic futilities; that we were, on the contrary, the true and undoubted hard-heads, who, from the standpoint even of the bawbee-saver, could stand the severest test of a Chamber of Commerce, or sustain the acid test of a board of directors of a Scottish bank. We had those amongst us who deemed it civic patriotism to deny facts about their cities which were but

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too obvious to all others." Again: "I leave out the esthetic or spiritual profit which enthusiasts see in a happier and healthier citizenship, born of a new and beautified environment for the child and the man. But in actual cash there is money in city improvement. Alderman Milner Stephen, with Mr. Nesbitt, Town Clerk, and Mr. Solomon, the Treasurer of Sydney, will show you, in their paper, the financial soundness of Sydney's improvement schemes which swept away foul slums, as with a magic broom, and gave us broad thoroughfares like Wentworth Avenue and Commonwealth Avenue, the widened Oxford Street and the improved market zone. And all this at no financial loss, and with an appreciable profit in improved health, a lowered death-rate, and in the natural growth of a proper civic pride."

Indeed, to the community, city-planning will always prove a financially good undertaking when in the hands of a stable efficient communal government and conducted along rational lines. The most valuable, because the most convincing, argument in its favor is offered by its economic importance, and it is more than a matter of nice speculation to consider what the difference, from this viewpoint, might have been, if, ever since the great industrial era began, about a hundred years ago, the well-handled guidance and control of city expansion had formed an integral part of the government of our municipalities. When the purport of city-planning shall be more

generally grasped in this spirit, if not earlier, its universal victory will no more be distant, and there is reason to believe that among those leading countries which will have done the greatest part of the heavy pioneering work one then will find the states of Australia.*

*For a complete account of the Town Planning Conference in Brisbane, we refer the reader to the expected official Transactions. A complete list of the subjects on the programme of the conference includes the following papers:

1. Proposed Darra Industrial Garden City, adjacent to Brisbane—a scheme to embody repatriation proposals for Queensland.
2. Soldiers' Settlements, covering repatriation in relation to the establishment of new industries for returned soldiers, and the town-planning problems connected therewith. (Separate papers and schemes provided by New South Wales, Victoria, South Australia, and Queensland).
3. Practical Town Planning, South Australia.
4. Best methods of subdivision in Residential Areas (New South Wales).
5. Housing, including Finance, Garden Suburbs, Structural Design, etc. (Victoria).
6. Distribution of Parks, Playgrounds, and Other Open Spaces (Western Australia).
7. Regulation of Building by Zoning and Town Planning. (New South Wales).
8. Classification, Design and Treatment of Roads in Town Planning Scheme, with particular reference to the need for the coördination of Public Service (Local Government Engineers of Australia).
9. The Work of the Municipal Engineer in Relation to Town Planning (Local Government Engineers' Institute of Australia).
10. Methods of Financing Town Planning (New South Wales.)
11. Domestic Architecture for Tropical and Sub-Tropical Australia (Queensland).
12. The Fundamental Principles of a Town Planning Bill (New South Wales).

Book Reviews

The American Hospital of the Twentieth Century. By Edward F. Stevens. The Architectural Record Company, New York. \$5.

In "The American Hospital of the Twentieth Century," Edward F. Stevens has produced a book which is destined to be of great value to the profession and to all who are interested in hospital construction. Only too often, after bitter experience, have hospital boards come to realize that, without special training, the most competent surgeon and the most competent architect do not know how to plan a hospital. The book will have more than justified its existence if it brings home to those planning to build the infinite possibilities in hospital planning, the thorough study of details required to produce satisfactory results, and the absolute necessity of familiarity with the technique of hospital administration and the care of patients.

The author devotes his first chapter to the general consideration of group plans and gives a number of examples of modern hospitals in Europe and America. The chapter is of great interest; it is only to be regretted that this portion of the subject has not been discussed at greater length. The book treats at length of the ward unit, the backbone of the hospital, and the portion of the hospital, the successful planning of which most interests the patient. The various items comprising the ward unit are described, with their relative importance from the point of view of the care of the patient and the simplification of service, and the points brought out are illustrated by many interest-

ing examples; it is a sign of the modern tendency toward small wards that, of all the ward-plans shown, only two call for twenty-four-bed wards, and the great majority contain from four to sixteen beds.

The detailed description of the medical unit, in which most of the examples shown are drawn from European hospitals, is of especial interest, for the necessary development of this service for reconstruction work among the wounded will be a lasting benefit to the civilian population. Other chapters treat at length, with many detailed plans, of the operating, maternity, and children's departments, the psychopathic and contagious services. This last chapter is of great interest, as it shows the logical development of the isolation service from the first bold experiment by Drs. Roux and Martin, and Florentin Martin, the architect, in the Pasteur Hospital in Paris, made less than twenty years ago, which has revolutionized the planning of all contagious hospitals. A very interesting chapter treats of special departments of the hospital, pathological, X-ray, etc., with instructive plans of out-patient dispensaries.

The most valuable portion of the book, to the average architect, is that which treats of the small hospital of from fifteen to seventy-five beds, in which sacrifices and compromises must be made at every turn and where the architect has before him a far more difficult problem than in the larger institution. Mr. Stevens shows some most helpful solutions of the problems presented by this type of hospital. Interesting plans are also shown for nurses'

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residences, and the author makes a strong plea for the separate building, in which the nurse, when her hours of duty are over, shall be entirely free from the hospital atmosphere, and in which, through its division into single rooms, the nurses who spend two or three years of hard work in the institution, may spend them in homelike surroundings and with reasonable privacy.

The kitchen and laundry are treated in detail, and are followed by invaluable chapters on heating, ventilating, and plumbing, and details of construction and equipment. On these matters, Mr. Stevens, from his long practical experience, is able to furnish many useful hints.

The concluding chapters treat of hospital landscape work and war hospitals, in connection with which the writer has had the good fortune to work with Mr. Stevens and appreciate his thorough knowledge of his subject. Taken as a whole, the book will be of value to any architect who is interested in hospital work; while it does not pretend to be a guide enabling the architect without previous experience to become in one week an expert on hospital planning, it will be a great help to everyone who approaches seriously the very complicated problem of designing a hospital to meet the exacting requirements of modern medical and surgical practice. CHARLES BUTLER.

A History of Architecture. By Fiske Kimball and George Harold Edgell. Harper & Brothers, New York and London. \$3.50.

This is one of a series of histories of art edited by Prof. George Henry Chase, of Harvard University, and deserves a prominent place among the shorter histories of architecture. The portions of the book dealing with ancient and modern times, and with the architecture of the Far East, were written by Mr. Kimball; the part between, covering the Middle Ages, was written by Mr. Edgell. Even if the Preface had not accredited the different parts to the different authors, the difference in viewpoint and treatment would make it quite apparent to the reader that two men had more or less independently produced the book. Mr. Kimball has written good history as history is usually written, an archeological, chronological record of events, rather academic and cold, as for instance:

"With the transference of the seat of government to Memphis, a little south of modern Cairo, began the first of the great flowerings of Egyptian art. Under the kings of the Third Dynasty the royal tombs gradually took the form of pyramids, and with the first king of the Fourth

Dynasty, Khufu, came the culmination of Memphite architecture in the Great Pyramid at Gizeh."

Mr. Edgell, on the other hand, has written good history as history should more often be written, with archeology somewhat tempered and softened, readable, and bringing back to life the times described. Speaking of the early manifestations of Gothic in the parish church of Morienval, he says:

"If we but walked from the north aisle of Morienval to the apsidal ambulatory of that church, we might see a transverse arch not only stilted that its crown may approach the crown of the vault, but also for the same reason pointed. With this observation we should pass, however, from the consideration of Romanesque to that of Gothic architecture."

There is this little sidelight on the socialistic character of medieval building: ". . . the Gothic cathedral, like the Romanesque, was the expression not of an architect, or a patron, but of a community. It is significant that, though archeology has often published the names of the architects or *magistri operarii*, of the great Gothic cathedrals, these names are almost universally unfamiliar and unnoted. The cathedrals of Amiens and Rheims are as well known as those of Florence and Rome, yet people who would be ashamed not to know about Brunelleschi or Bramante would look blank at the mention of Robert de Luzarches or Jean-le-Loup. In a sense Gothic art is strongly socialistic."

Again there is a lucid statement like the following: "The evolution of Gothic from Romanesque may be traced by the gradual acceptance of revealed structure as the most important aid to esthetic effect."

The reaction which comes from reading Mr. Edgell's history is much more exhilarating than that which comes from reading Mr. Kimball's.

Although illustrations are quite numerous, it is to be regretted that there are not more to include all the important buildings mentioned in the text. This would have been really worth while.

The plan of the book is comprehensive and the whole is quite up to date. The chapters on Modern and American Architecture are unusually extensive. Its chronological summaries and lengthy bibliographical notes should make this history a valuable textbook, while the glossary should make it easily available for lay readers as well as student beginners.—B. J. L.

News Notes

Architectural Conditions in France

A correspondent sends us a brief report of a recent meeting of the Société des Architectes Diplômés, at Paris, held to discuss what could be done to assist the returning architects to take up their practice, as well as to consider what should be done toward safeguarding the architectural developments of the reconstruction period. The general plan discussed at the meeting was based upon

the formation of a central bureau, or guild, the members of which should be confined to *diplomes*, with other architects admissible as an associate of a *diplome*. The central office would be furnished with draughtsmen, superintendents, *verificateurs*, and the returning architect would take his work to the central office and use it as though it were his own, there guiding the studies and the draughting, interviewing the client, and in general, conducting his practice through this medium. At present, draughtsmen

in France are said to be either architects out of practice, or students seeking work. The latter must, however, continue their studies and apply for their diplomas.

It was considered that many individuals and communities would entrust their work to the central society, which would, in turn, allot it according to the respective fitness of the members. In other words, the central office would act as a clearing-house for new work, but assuming no responsibility. In the devastated regions, there would be sub-offices, handled in the same manner but coordinated with the central office. Objections were raised, of course, since all recognized the possible loss of individuality under such a plan. Further details will be awaited with great interest.

Post-War Program in San Francisco Chapter

At the last meeting of the Chapter, the Chair announced that it was desirable that the Chapter proceed with a program for the reconstruction period, and that, pending the receipt of the Institute's program, it should inaugurate a program of its own dealing with local conditions. This would be supplementary to the Institute's program and would also constitute a useful service. The subjects outlined for consideration were: A revision of the San Francisco building laws, standardizing specifications to meet local conditions, architectural education in the public schools, particularly the vocational and evening schools, and public information regarding the profession of architecture.

Architects' Fees for Housing Schemes

The following Scale drawn up by the R. I. B. A. Housing of the Working Classes Committee in consultation with the Allied Societies has been approved and issued by the Council of the Royal Institute.

In fixing the Scale of Charges for the development of land, or for Housing Schemes, special arrangement will usually be required according to circumstances, but for ordinary cases the following are the charges:

(a) *Housing Schemes and Laying-out Estates.*

For the preparation of a plan or scheme from existing maps, showing roads, building plots, and buildings in block, and including conferences with officials of local authorities, but not including surveying, levelling, contouring, or the preparation of detailed plans of buildings, the remuneration is as follows:—

For the first 25 acres	£2	2s per acre
On the next 27½ acres	£1	1s per acre
On the remainder	£0	5s per acre
Minimum charge, 25 guineas.		

(b) *Roads and Sewers.*

For preparing working drawings and specification of roads and sewers, obtaining tenders and advising on the same and in the preparation of contract, furnishing to the contractor one copy of the drawings and specification, general supervision as before defined, issuing certificates, and passing and certifying the accounts, the charge is 5 per cent upon the cost of the works. Should the works not proceed after the preparation of the drawings and specification, the charge is 3 per cent upon the estimated cost.

(c) *Buildings in Housing Schemes.*

In Housing Schemes the charge is 5 per cent on the first 12 houses, 2½ per cent on the next 60, 1½ per cent upon the remainder. This percentage covers the ordinary variations in type of house and such minor modifications as are made to avoid monotony in appearance. Where the Local Authority assumes responsibility for the supervision and carrying out of the work these fees may be reduced by one-third.

This scale is not necessarily applicable if the carrying-out of the work is effected in instalments and consequently deferred over a long period of years.

New Members Elected to the Institute

- Louis Baeder, 1012 Securities Building, Seattle, Wash., Washington State Chapter.
- Joseph H. W. Bradney, 10 W. Huron St., Buffalo, N. Y., Buffalo Chapter.
- Frank G. Churchill, 1102 Hennen Building, New Orleans, La., Louisiana Chapter.
- Paul A. Davis, 3d, 1713 Sansom St., Philadelphia, Pa., Philadelphia.
- Otto R. Eggers, 2348 University Ave., New York City, New York Chapter.
- A. F. Gilbert, 80 Maiden Lane, New York City, Brooklyn Chapter.
- Charles Willis Gilmore, G St. and Godfrey Ave., Philadelphia, Pa. Philadelphia Chapter.
- William G. Herbst, 721-722 Caswell Block, Milwaukee, Wis., Wisconsin Chapter.
- Stanley F. Kadow, 451 Mitchell St., Milwaukee, Wis., Wisconsin Chapter.
- Eugene J. Lang, 477 Fifth Ave., New York City, New York Chapter.
- Frederick John Manley, 625 Holston National Bank Building, Knoxville, Tennessee, Louisville Chapter.
- Edward Fairfax Neild, Shreveport, La., Louisiana Chapter.
- G. Lloyd Preacher, Augusta, Ga., Georgia Chapter.
- Oran Winthrop Rice, 8 W. 40th St., New York City, New York Chapter.
- Paul D. Richardson, 727 Henry Building, Seattle, Wash., Washington State Chapter.
- William W. Slack, 144 E. State St., Trenton, N. J., New Jersey Chapter.
- Charles S. Wood, 19 W. Huron, Buffalo, N. Y., Buffalo Chapter.

New Firms and Associations

Mr. William H. Gompert, of New York City, announces that Mr. Lauritz Lauritzen, formerly practising architecture on his own account, has now become associated with him at his office, 171 Madison Avenue.

What Is a Builder?

Recently, the Milwaukee Chapter was asked by the Mayor of that city, in connection with a certain matter, to define the word "builder." The Special Committee, Messrs. Brust and De Gelleke, appointed by the Chapter, advised the Mayor at some length, but with the general conclusion that "a contractor for any branch of work in the building industry may be called a builder." The Mayor replied that this information was not sufficiently specific, and raised the question as to whether a painter would also be called a builder. To this, reply was made by Mr. Rose as follows:

"The definition, given to the Mayor was not an attempt to limit the application of the term 'Builder' to one who actually does construction work with boards and bricks, but was intended to bring out the fact that a painter is a component part of the much-diversified building industry, and therefore has his recognized and indispensable place in that industry.

"Whether the term 'Builder,' as used in the law creat-

ing the office of Building Inspector, is intended to mean only an actual worker with building materials, or is elastic enough to embrace the broader definition, is a question which I should dislike to be called upon to decide."

This raises an interesting question at a time when building terminology is undergoing sharp scrutiny.

Registration in New York State

There will be two opportunities during 1919 for architects to be admitted to practice in New York state by examination. Examinations held in various cities will be open to candidates, who shall have previously qualified, on January 29 to February 1, and on June 1 to 3. Candidates may obtain copies of the Registration Law and an outline of the examination by addressing,

DR. A. S. DOWNING,
Assistant Commissioner for Higher Education,
Education Building, Albany, N. Y.

The Philadelphia Chapter Looks Forward

Forty-one men sat down to the informal dinner preceding the last meeting of the Philadelphia Chapter. At its conclusion, President Sinkler addressed the meeting briefly, saying that it was hoped to have the Chapter meetings for 1919 devoted largely to a discussion of the social, economic, and political aspects of the practice of architecture. It was in that vein that Dwight H. Perkins, of Chicago, addressed the meeting, saying, in part:

"The discussions around the cracker-barrel of the old crossroads store represented a homely but wholesome form of democracy, wherein each man had the same opportunity for speech. In like manner, the colonial period of New England marked a high development of social and political development and democracy; for the town meeting, where everybody was given an equal chance to speak, was essentially democracy in action. And the life in the New England kitchen of those days was also democratic in its nature. Nowadays, in our work (for example, in the Bureau of Housing of the Emergency Fleet Corporation), we think we are promoting social science, and we are asked to work and plan for the future. But we make the mistake of putting adjectives before our towns, when we speak of them; as soon as we begin to talk of *industrial* planning, we indulge in segregation. If we are to work with social vision and social sense, let us drop *industrial towns*, and develop *towns*. The architect's function is to plan, construct, and design—please note the order—and to discharge his function with best results, he should widen and increase his knowledge, his resourcefulness and his vision, to keep pace with the growing ideas and requirements of the community. The village or town school nowadays should include an assembly hall, a department of industrial and domestic science, a kindergarten, a natatorium, and gymnasium, and recreation-rooms. And there should be something akin to a forum, to which the people may come with the knowledge that it belongs to everybody, and where a safety-valve can be furnished in the freest expression of speech and thought.

"It is hoped that the architect may come to be respected as an authority on simple and practical matters; for

instance, that he may know beyond question that houses cannot be rented unless certain facilities are provided, both within and without. Amongst professional problems of the present is that of advertising; which, if done properly, is right. Advertising is, after all, a part of our public relations, and the public is entitled to the information provided in that form. What can the architect do to increase his service? His relation to the community should be one of understanding, of coöperation, of active influence in the social and economic life of the community in which he lives. Let him take a share in politics, vote in the primaries, show an active interest in public questions, help legislation in every possible way that is open to him. Very frequently the most effective way to serve the community is in coöperation with the politicians, and we should not neglect the opportunity."

Mr. Bright, Chairman of the Civic Betterment Committee, spoke briefly of the work done by the Chapter through his Committee in the scheme of developing the industrial and transportation facilities of Philadelphia and vicinity.

The Building Problem in Switzerland

The effect of war upon the small neutral countries, such as Switzerland, is illustrated in the report of a committee of architects of the Swiss Society of Engineers and Architects, specially designated for a study of the question of rents. It appears, from the report, that property owners have had to bear a heavy war-burden which they have been unable to recoup through a raising of rents. The committee dealt with the question under three heads: Interest on loans; Taxes and Insurance; Repairs.

The interest charge on loans has risen from 4 and $4\frac{1}{2}$ per cent before the war, to 5 per cent. Taxes have steadily increased, with no prospect of abatement, and with every indication of an increase in the future. The cost of repairs has increased by a figure quoted at 83 per cent, but the data upon which it is based does not include major repairs. The cost of these, the report indicates, has increased to an even greater extent, while it is also pointed out that the shortage of materials and the consequent use of inferior products also add to the troubles of the property owner.

Apparently, it has been impossible to increase rents in Switzerland. In Berne it seems to have been prohibited by law, while in other localities, due to general economic conditions, no increase of rents was possible. Naturally, the effect has been to discourage building of any kind. The report concludes with the statement that property owners must be allowed to increase their rentals.

The Editor of the Journal to Make First Hand Studies of Post-War Problems in Europe

The Editor of the Journal has sailed for Europe, to be absent some weeks. There, in his capacity as Secretary of the Post-War Committee, and as a special agent of the Department of Labor, he will undertake a study of many post-war problems affecting both the building industry as a whole, and the architectural profession in particular.

Housing on the American Federation of Labor Program

There are two significant items in the program put forward by the Committee on Reconstruction of the American Federation of Labor as made up about the middle of January. One of these provides for legislation taxing unused land not cultivated by the owner and giving aid in the allotment of home building on the public domain.

The other item provides for the inauguration of a plan in which the Government should construct model homes for workers and use a system of credits by which employees may borrow funds to build homes.

The history of housing experience throughout the world shows that government credits, at low rates of interest, whether direct or fostered through private agencies do no more than to offer temporary palliation in providing decent houses for workers. The suggestion made that the Government should in some way deal with the land problem goes direct to the heart of the question. With the right use of land there would never be any housing problem. To correct the present difficulty it may be necessary, however, temporarily to provide for credits at low rates.

We are bound, as time goes on, to see an increasing recognition in this country of the futility of trying to adopt the palliative measures of Europe.

The Housing Division of the Emergency Fleet Corporation During the War

TO THE EDITOR OF THE JOURNAL A. I. A.:

Dear Sir:—At this time when those who have participated in the work of Government departments during the war are rapidly returning to private life, it seems proper to make some formal record in the Journal of the architects who have thus served in various ways to meet the war-time emergency.

The Journal has listed, from time to time, those who were in the Army or Navy and has made frequent reference to architects holding positions of prominence in the U. S. Housing Corporation and the Housing Division of the Emergency Fleet Corporation. I fear, however, that not sufficient credit has been given (irrespective of Institute membership) to the many men who, frequently at great personal sacrifice, carried on the great bulk of the work.

In order that this injustice may be in part rectified, I would give, herewith, the names of sixty or seventy practising architects, draughtsmen, and men engaged in town-planning work, who were connected in varying capacities with the housing work in the shipyards as members of the office staff of the Production Bureau, Housing Division, Emergency Fleet Corporation, U. S. S. B.

Abel, V. D., Philadelphia. Assistant Supervisor Designs.
Ackerman, F. L., New York. Chief Design Branch.
Ackerman, F. I., New York. Assistant Supervisor Materials.
Albro, James, New York. Superintendent Materials Purchase.
Appledorn, J. R., New York. Assistant Supervisor Records.
Bannister, Wm. P., New York. Assistant to Chief Production.
Bishop, Samuel R., New York. Specification Expert.
Bolton, Chas. L., Philadelphia. Design Branch.
Cass, A. C., New York. Design Branch.
Campbell, James, New York. Superintendent Construction.
Christopher, Edward E., St. Louis. Town Planning.
Church, Walter S., Chicago. Supervisor of Plans.
Cooke, H. G., Jr., Wilkes-Barre, Pa., Assistant Supervisor Costs.
Derby, Richard B., Boston. Project Supervisor.
Dobbins, Albert N., Philadelphia. Assistant Chief Progress Engineer.
Dixon, L. H., New York. Design Branch.
Englehardt, Chas. P., New York. Design Branch.
Esser, Paul F., Chicago. Assistant Supervisor Materials.
Fletcher, J. Alan, New York. Design Branch.
Goldstone, L. A., New York. Project Supervisor.
Gilchrist, Edwin B., Philadelphia. Design Branch.
Goodwillie, Frank, New York. Deputy Chief Production.
Guthridge, Richard J., Philadelphia. Assistant Supervisor Materials.
Glenn, Gerald S., Philadelphia. Design Branch.
Haldeman, B. A., Philadelphia. Chief Town Planning.
Heclam, John J., New York. Design Branch.
Humans, Wm. M., Glendale, Cal. Town Planning.

Humble, Albert, New York. Chief Specification Division.
Herr, Ralph, Carlisle, Pa., Progress Engineer.
Johnson, Wm. Templeton, San Diego, Cal. Design Branch.
Johnson, Clarence G., Chicago. Assistant Supervisor Costs.
Karcher, Walter T., Philadelphia. Design Branch.
Klein, Eugene S., St. Louis. Project Supervisor.
Kohn, Robert D., New York. Chief of Production.
Lackey, Ben. H., Philadelphia. Design Branch.
Lewis, H. Schell, New York. Design Branch.
Lohman, Karl B., Philadelphia. Town Planning.
Mathesius, Fred Jr., New York. Chief Project Supervisors.
Mulliken, H. B., Pelham, N. Y. Supervisor Costs.
Mackintosh, Alexander, New York. Design Branch.
Manard, R. P., Chicago. Design Branch.
Mann, M. M., Boston. Design Branch.
Mayer, Max F., New York. Design Branch.
Miller, Geo. H., Brookline, Mass. Town Planning.
Mullgardt, W. Oscar, St. Louis. Design Branch.
Pingrey, R. E., Highland Park, Ill. Supervisor Labor.
Perkins, Dwight H., Chicago. Assistant to Supervisor Designs.
Ritchie, George, Boston. Project Supervisor.
Rutherford, George, Philadelphia. Town Planning.
Russell, E. J., St. Louis. Deputy Chief Production.
Selzer, Louis J., St. Louis. Design Branch.
Seifel, Jos. A., Philadelphia. Design Branch.
Stacy-Judd Robert B., Minot, Dak. Project Supervisor.
Steinmetz, Welcome R., Greenwich, Conn. Estimator.
Thomas, A. J., New York. Supervising Architect.
Upjohn, Hobart B., New York. Assistant to Chief of Production.
Virion, C. C., New York. Design Branch.
Vollmer, C. A., New York. Assistant Supervisor Materials.
Wachendorff, Eugene, Atlanta, Ga. Project Supervisor.
Walker, Hobart A., New York. Design Branch.
Walter, T. U., Birmingham, Ala. Design Branch.
Waid, D. Everett, New York. Deputy Chief Production.
Wein, Alfred C., New York. Design Branch.
Woods, N. M., New York. Design Branch.
Wood, Jerome F., Rochester, N. Y. Project Superintendent.
Wightman, Edgar A., Philadelphia. Project Superintendent.
Wright, Henry, St. Louis. Assistant Town Planning.
Zlouowick, Esperidiao, Philadelphia. Design Branch.

It is not my desire to make any distinction between these men with regard to the relative importance of their positions or their accomplishments. Indeed such an attempt at discrimination would surely be impossible. Each and every one showed evidence of devotion and loyalty to the cause that deserves mention. This was also the case with the several hundred construction experts, engineers, and superintendents connected with my division.

The publication of this list of architects and "town planners" in the Journal will, in itself, be an act of justice and will serve as an historic record.

Very truly yours,
ROBERT D. KOHN.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS & SPECIFICATIONS, FIRE-PREVENTION, MATERIALS & METHODS, STRUCTURAL SERVICE

(For index of subjects previously treated, see Index on page 43 and consult the General Index in Structural Service Book, Vol. 1)

An Outline for 1919

The Institute, at its Fifty-first Convention, adopted a resolution which prescribed the following duties for the Committee on Structural Service:

"The duties of the Committee on Structural Service shall be to coördinate and correlate structural phases of the Institute's activities and to cooperate with departments of the Federal Government, states, and municipalities and with affiliated organizations in matters where the Institute may properly render service toward improvements in structural materials, their safe and efficient application, and toward higher ideals in providing for the health, safety, and comfort of the occupants of all buildings, . . ."

These duties, broadly speaking, relate to activities in the field covered by the second of the three classifications into which the Executive Council of the Post-War Committee on Architectural Practice has divided the work of that Committee:

"The relation of architecture to other trades and professions, and to the building industry generally."

The formulation of a permanent policy and plan for the work of the Committee on Structural Service, therefore, must necessarily be the outgrowth of the program finally adopted by the Post-War Committee. There is yet another reason why the program of the Committee on Structural Service must follow rather than precede that of the Post-War Committee. President Kimball, in speaking to the Fifty-first-Convention, said:

"In the country that raises your corn and your wheat, the farmer takes care of his spade; the Journal is our spade. I hand this message to you—take care of it. It is the thing with which we shall either dig ourselves in, or be left on the wrong side of the top, never to go over, if we do not make of the Journal all that we can."

The Committee on Structural Service is one of the users of that spade and must "take care of it." The Post-War Committee is also a user, the most important user, of the "spade." The two must cooperate in using it so that it shall yield the utmost in plan and in accomplishment.

But the temporary inactivity of the Committee on Structural Service does not make necessary a corresponding

suspension of the Structural Service Department. There is a vast amount of work to be done toward stabilizing the building industry, and the responsibility for assuming a share of this work rests on all alike. Now is the time to make such work count to the utmost; now, while the future is still plastic in our hands and may be moulded from the experience of the last four years.

Secretary of Commerce Redfield, in addressing the Industrial Conference at Atlantic City said: "Our foreign trade of the future must be built on scrupulously honest representation." With equal justification, the Secretary might have said the same thing of the development of our future domestic trade. Our thoughts, in this connection, focus on advertising as it has been done in the building industry. It is not enough that the superlative be eliminated from the claims for a product. The maker should be discouraged from claiming a field of usefulness for his product to which it is ill-suited or in which it has proved uneconomical or unserviceable.

There is a body of truth with respect to the service performance of every product upon which the advertised claims should be based. It is the truth, moreover, and not the enthusiastically optimistic speculations of the manufacturer or proprietor of an article, that the architect wants. For the benefit of both the readers of the Journal and the advertisers, the Editors propose to develop the fundamental relationship which exists between the advertising and the Structural Service Department. This will be done mainly through the publication of short authoritative discussions on the characteristics of materials, and the service conditions which the possession of those characteristics renders the product able to meet satisfactorily.

It is difficult to overestimate the importance of standards as a means of facilitating the intelligent selection of materials and methods for predetermined results. The Structural Service Department will be devoted in part to encouraging standardization, and to giving publicity to standards established either by industrial groups or jointly by professional and industrial societies. Wherever possible, the considerations underlying the standard adopted will be given, together with the arguments for its recognition and use. Many of the standards which were formulated and would have been adopted, had the war continued, provided for most desirable economies. They should now be established by general agreement and consent. One such case, is the attempt to effect as a war-conservation measure certain changes in the standard manufacturing practice for rubber insulated wire and cable. Much valuable work of this character was done during the war, but has not been recorded. It is our purpose to record it, and to encourage its continuation to a serviceable end.

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Shadows and Straws

SINCE last winter, a committee of the Architectural League of New York has been studying the possibility of establishing a school for the teaching of design as applied less to the making of individual things and more to production in quantity, the committee seems frankly to have accepted the premise, Mr. Ashbee laid down, some years ago, in his book, "Shall We Stop Teaching Art?"—that the only way out of the present dilemma is to bring design within the domain of centralized industry. This point of view is not new, and there have been various efforts to provide systems of instruction in design and craftsmanship which would achieve the end sought. Indeed, very recently, we have had a most interesting book on the subject in Miss Helen Marot's "Creative Impulse in Industry." Her diagnosis of the situation is one of remarkable lucidity and although the kind of school she proposes to establish appears to meet with the approval of no less an authority than Professor Dewey, there are others who see, in her proposal, only one more attempt to compromise with that force which has so far defeated all our real educational aims—the force of commercialism.

Elsewhere in this issue there is printed an outline of the plan for the schools, which are to be under the government of a joint committee composed of representatives of the American Institute of Architects, the National Academy of Design, the Architectural League of New York, and of manufacturers.

It would be rather ungracious, at this juncture, to point out the variety and the nature of the obstacles against which the apprentice schools

will have to contend. The new school cannot hope to avoid these obstacles, or to overcome them at the first combat. The struggle will be sharp, but it is one in which it were well worth while to engage, and the Institute is to be congratulated upon its opportunity to collaborate in an effort, the success of which will mean so much to the enrichment of architecture. The Architectural League deserves high praise for the courage with which it has so boldly entered the lists.

The founders of the new schools are to be congratulated on their choice of name. We are indeed tired of "Art" with a capital "A"; we are so tired of schools of "Industrial Arts," "Fine Arts," "Commercial Arts" that it is refreshing to meet with a "School of Design," for, after all, design and not art is the fundamental thing the craftsman or artisan needs to learn and understand, and which is the thing that puts character into his work. So "Schools of Design" is what it should be. Again the word "apprentice" is refreshing. We are accustomed to find schools promising to turn out masters in so many months or even so many weeks, and it is pleasing, therefore, to find a school which modestly proposes only to show apprentices the proper paths to follow.

THE DANGER OF EXTRAORDINARY unemployment during and immediately after the present demobilization seems a bugbear which looms large on the horizon. Many suggestions have been made with the view of taking care of this situation, should it arise. Among these suggestions is the interesting bill introduced January 21, by Senator Kenyon of

Iowa, providing for the creation of a United States Emergency Public Works Board, consisting of the Chief of Engineers of the United States Army, an officer of the Department of the Interior designated by the Secretary of the Interior, an officer of the Treasury designated by the Secretary of the Treasury, and two citizens appointed by the President with the advice and consent of the Senate. This board is to cooperate with all federal, state and municipal agencies entrusted with the execution of any public work, with the view of stabilizing industrial and employment conditions by stimulating useful public work where acute unemployment exists or is threatened. The board is directed to make investigations and reports concerning such public work in all parts of the country. The bill carries an appropriation of \$100,000,000, which may be used to enable any agency of the federal government, having in charge some public work for which the existing appropriation is insufficient, to proceed with such work; to enable the Chief of Engineers to construct or repair such roads as the Secretary of War may certify to be of strategic or military value; to make advances for the transportation of workers to places where such public work is going on; and to pay the administrative expenses of the board. These allotments are to be made with a view of providing the maximum of public employment consistent with the wisest extension of the public works of the United States.

Another provision of the bill empowers the War Finance Corporation to make advances, from time to time, to any state in the Union, to enable that state, or any of its political subdivisions to carry on such public work within its borders as will relieve existing or threatened unemployment. Such advances should not exceed \$300,000,000 at any one time, and should carry an interest charge of not less than 5 per cent.

Senator Kenyon's bill was read and referred to the Committee on Education and Labor.

AT THE CONVENTION of 1915, in Washington, there was adopted a resolution of amendment to the by-laws which struck out the clause which had hitherto provided that certain officers of the Institute must be chosen

from among the fellows. This action was taken, if we remember correctly, without any opposition, and was intended to leave the fellowship with no privileges whatever, in order that it might become wholly an honorable preferment.

Possibly, the proponents of the amendment also had the idea of completely obliterating all differences in the membership class, since there still remains a distinction in the matter of dues. At any rate, the Board of Directors will propose, at the coming convention at Nashville, an amendment to the by-laws such as will extinguish the difference in dues, making them alike for both fellows and members.

Each year, of late, there have been discussions over the manner of choosing fellows for nomination. Some chapters wish the right of making their own suggestions to the jury of fellows, and of limiting the right of the jury to a choice only from the names suggested by the chapter. Others, on the contrary, think the chapter should have no choice in the matter. This differing point of view might be reconciled, perhaps, if the first were considered as more or less natural to a large chapter, and the second one equally natural to a small chapter.

In the latter case, it would be pretty sure to prove very embarrassing for a small group to make selections. But the time has come, perhaps, when the whole subject should be considered fundamentally, and especially in relation to our experiences of the last four years. As the Institute grows in numbers, the process of electing fellows will be likely to become more and more complicated, and to be less and less free from a certain injustice which is always present when the number to be elected in any one year is limited, either by law or by agreement. It is, therefore, in view of these facts, that there is published in this issue of the Journal, a history of the fellowship relation in the Institute. Thus it will be possible for all to follow this development, from the beginning up to the present time, and come to a conclusion with all the facts known. The subject has many aspects, but there will probably be a universal agreement on the underlying principle on which a final decision should be based: Is fellowship good or bad for the architectural profession?

Fellows and Fellowships

THE word "fellow" is of Scandinavian origin, and is derived from two words which have the literal significance of a laying together of property. Chaucer spelled it "felawe," and in the "Ancren Riwe" it appears as "feolauschipe." From this comparatively simple beginning its meaning has been transmuted into both gold and tinsel; to know what one means by the use of the word fellow today there must be a reference to the context.

In the sense of fellowship as a distinctive form of membership in a society or body, the word is used by analogy only, for it was borrowed, apparently, from the universities, where its significance is quite a different thing. In early days, all university members were called "scholars." Later on, the word "scholar" was confined to the students, and the word "fellow" was used to indicate those senior members of the graduate body who had been elected to the foundation by the corporate body. They shared in the government and enjoyed a fixed revenue out of the funds. That is the sense in which the word "fellow" is used in the English universities.

That there is a relationship between this use of the word and its original meaning is indicated, perhaps, by the fact that fellowships were usually constituted by the founders of the colleges to which they belonged. Others were provided in the form of endowments. In all cases, with few exceptions, their holders must have taken at least the first degree of Bachelor of Arts or student in the civil law. In 1854, under the University Act, fellowships were thrown open to all members of the universities of requisite standing. This entirely removed the former restrictions by which many fellowships were confined to founder's kin, to the inhabitants of certain dioceses, or to archdeaconries or other districts. Fellowships vary greatly in value. In 1870,* they were said to reach, at Oxford, as high as 700 or 800 pounds annually, while others amounted to less than 100 pounds.

In the medieval colleges, the fellows usually had a common boarding-place and were allowed regular stipends out of the revenues of the college. Singularly enough, the foundation of the

*"Cyclopedia of Biblical, Theological and Ecclesiastical Literature," McCormick and Strong.

University of Paris has been traced to a humble sleeping-place provided by a pious devotee, and also to small stipends allowed to eighteen scholar-clerks. In the colleges of the United States the word "fellow" often means trustee, but the ordinary fellowship is an honor carrying an allowance running as high as \$1,000, in some cases, and the receipt of which carries varying obligations as to study, research, or travel.

As it is intended that the scope of this article shall be kept within the bounds of the uses of the words "fellow" and "fellowship," as signifying membership and membership relations in bodies such as the Institute, no effort has been made to explore the imposing history of the theory of organizations. Interesting as this might be, the gleanings would not be commensurate with the research, for it is with modern significances that we must deal, and toward the solution of a modern problem we must address our steps.

The original constitution of the Royal Institute of British Architects prescribed that

"The Institute shall consist of three Classes of Members: Fellows, Associates, and Honorary Members. The Fellows shall be Architects who have been engaged as Principals for at least seven successive years in the practice of Civil Architecture. The Associates shall be persons engaged in the study of Civil Architecture or in practice less than seven years, and who have attained the age of twenty-one years." (Associates had no vote).

All officers were chosen from among the fellows, except that it was permissive for the president to be elected from the honorary members. It was also provided that:

"Every nobleman or gentleman, who may present the Institute with a sum of not less than twenty-five guineas, may be elected as Honorary Fellow."

The initiation fee for fellows was fixed at five guineas, with annual dues of three guineas. Associates paid three guineas the first year, and two guineas each year thereafter. A fellow, upon entrance, enjoyed the privilege of compounding his dues by the payment of thirty guineas, or he could compound them at any later time on the payment of twenty-five guineas.

The organization thus appears to have been along the lines usual at that period and to have

followed the traditional distinctions of England. As Mr. Webb has pointed out in his article in the *Journal*, this was not an attempt to organize the architectural profession. It was rather the expression of a wish, on the part of a small group of men, for fellowship in the sense of a social commingling for the discussions and debates which were then the order of the day in all learned societies. Professional men, such as architects, had not then begun to experience the pressure of social and economic transformations which today react upon the practice of architecture.

By contrast, the original constitution of the American Institute of Architects offers a field for much speculation. It came into existence twenty years later than that of the R.I.B.A., yet that it owes its inspiration to its English predecessor is scarcely to be doubted. That now-famous group of American architects also felt the need of closer acquaintance and understanding. They were not attempting to organize the Institute along the broad lines of today, although one feels certain that they had already begun to perceive the beginnings of several of the problems which now loom so large. But the significant thing about the constitution which they drew up and adopted in 1858 is that they substituted the word "professional" for the word "fellow:"

"The Institute shall consist of professional, associate, and honorary members. Professional members shall be Architects, who have been engaged as principals, for not less than three successive years, in the practice of Architecture. Associate members shall be persons who have studied Architecture for not less than three successive years, in the office of a professional architect. The title of honorary member may be conferred upon any individual of distinction. . . . The initiation fee shall be ten dollars for professional members, five dollars for associate members, payable in advance. The annual contribution shall be ten dollars for professional members, five dollars for associate members."

Why the word professional? It is clear from the balance of the wording that the Constitution of the R.I.B.A. had served as a model, yet the notable exception is the substitution to which we have alluded. Was it due to a feeling that membership distinctions should be avoided? This is a tenable supposition, for the United States had not at that time outgrown its faith in what it thought to be, at least, a democracy of social as well as of political life. Titles were not popular in those days, and our literature abounds

with the frequent allusions to our disdain of them. The word "professional" implied a pretty clear fact. It indicated that the member had attained a degree of competency, for it must be remembered that a practice of three years as a principal, at that time, was relatively as fair a test of competency as could be expected. As in the case of the R.I.B.A., the officers could only be elected from the professional membership, there being no exception.

According to the proceedings available for examination, the first convention of the American Institute of Architects was held on October 22 and 23, 1867, but the minutes contain a conflicting statement to the effect that the convention was "Adjourned from October 8th." The records between 1858 and 1867 are scanty. They reveal but very little by way of discussions of the subject of membership.

From the minutes of a meeting of the Institute held on December 20, 1864, we quote the following:

"Mr. Vaux then opened the debate on the propriety of introducing a new order of membership into the Institute that should include Painters, Carvers, Carpenters, Masons and others whose pursuits are connected with the art of Architecture!

"He thought it would be well to establish such a new order under the name of Fellows, or any name of like import, to distinguish them from the Honorary Members, who were altogether outside of the profession and only connected with it as amateurs, while the Fellows would consist of experts in the various crafts allied to the art of Architecture, whose association with us would be valuable not so much in imparting information to the Institute on the branches in which they were especially experienced, as in giving the Fellows themselves a motive for ambition. He thought the lines separating the architects and the artisan were too strongly drawn and wished to have the distinction softened so that they might work harmoniously together to the great benefit of the arts connected with architecture."

The matter was finally laid on the table, but in the brief record of the discussion which followed Mr. Vaux's statement, there is no further allusion to the question of nomenclature. Yet it is evident that new forces were at work, for in the edition of the Constitution "As amended February 19, 1867," by a committee which had been appointed for the purpose, we find that:

"The Institute shall consist of Fellows, Associates and Honorary Members. The condition of membership as Fellows or Associates shall be the honorable practice of the profession, in accordance with the Constitution and By-laws of the Institute."

FELLOWS AND FELLOWSHIPS

In the meeting of February 5, 1867, there was a discussion of the report of the Special Committee on Constitution, but the only reference to the new classes of membership which had been proposed by the Committee gives but one clue to the reason for the change. When it was complained that members seemed not to know the difference in qualifications for fellows and associates, Mr. Post replied for the Committee:

"that the Committee on Admissions would decide that point, and referred to the examination of officers for colored troops in our Army, who were assigned their positions without application for any particular grade, as they were found fitted for one or another station."

The new By-laws further provided that candidates for membership should be such as nominated by a Chapter, or that candidates at a distance might be nominated by two fellows. The initiation fees were raised to \$50 for fellows, and \$25 for associates, and the dues to \$20 and \$10 respectively. There were also provided "Rules for the Government of the Chapters." The President's address at that convention contains the following:

"Since our last convention, a radical change has been effected in the organization of our Society, consisting in the constitutional provision for chapters in affiliation with the general and national objects of the Institute, while yet, for the government of local affairs, under the government of their own laws."

But the records of correspondence and discussion shed no light upon the reason for changing the title from "professional" to "fellow." One supposition is as good as another, perhaps, but the facts do indicate that the Institute felt the need of larger membership. This need is frequently alluded to in the proceedings of those days, and inasmuch as the title "fellow" still indicated no superior merit as established by executed work, it seems not easy to avoid the belief that it was thought to offer a more flattering inducement for joining than the title "professional." The restrictions thrown around it were practically none. An architect could be elected directly as a fellow, and it seemed to be largely a matter of expense which determined the choice. There evidently existed some convention by which associates could be advanced to fellowship, for in the year 1867 it is recorded that H. H. Richardson was so advanced.

That the change was influenced by the membership titles obtaining in the R.I.B.A. is sug-

gested by a paragraph in the report of the Board of Trustees to the next convention, that of 1868:

"The Trustees considering it essential that Architects desirous of joining the Institute should make their applications for admission, in the form of a declaration, similar to that used by the Royal Institute of British Architects, caused a form to be drawn up, a copy of which is submitted for your approval."

The convention was held on December 8, 1868, but under date of June 2 of that year there appeared a new edition of the Constitution and By-laws, in which and for the first time, there appears a distinct qualification for fellowship. The clause is as follows:

"Fellows of the Institute shall be such practising architects as shall, upon their nomination by the Board of Trustees, be elected by the existing Fellows."

For the first time the right of election was taken away from the Board of Trustees and given to the fellows, but the right of nomination was left with the Board. At this same time, associates are described as "such practising architects as shall have been elected Members of the Chapters." No provision is made for advancing members to fellowship, but the By-laws begin to take on a more complicated appearance and indicate that problems of membership and organization were taking on a deep significance.

In the edition of the Constitution and By-laws as amended October 12, 1876, there is found a significant paragraph, to wit:

"Associates who shall pass to the grade of Fellows, shall pay the entrance fee of Fellows,"

but it is still clear that direct election to fellowship had not been in any sense given up. Except for allusions to these amendments in the addresses of the presidents or the reports of the Board of Trustees, there is comparatively nothing to throw light upon the causes which led to these amendments. The proceedings record no discussions of these subjects and are largely given over to the papers which were read and discussed at the conventions.

In a circular issued by the Secretary under date of December 15, 1869, it is stated that:

"Besides Honorary Members, the Institute consists of Fellows and Associates. Architects who are made Practising Members of any Chapter, become *ipso facto* Associates of the Institute; and Architects not belonging to any

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Chapter may be elected Associates by the Board of Trustees, upon nomination by two Fellows."

At this same convention a large number of men were reported as having been elected directly to fellowship, while others were advanced from associateship to the higher grade. This was also true at the convention of 1871, although the numbers were smaller.

At the convention of 1880, when it was proposed to do away with the relationship between the Institute and the Chapters, chiefly perhaps by reason of the fact that under the then existing By-laws a member of a Chapter automatically became a member of the Institute and thus liable for the dues of both bodies, the report of the Trustees contains the following:

"With a desire to elevate the standard of membership, your Trustees would also propose that the number of Fellows be limited to seventy, and their election be governed under the present By-laws, until that number is completed, and afterwards any vacancy occurring shall be filled, not by vote of the Board of Trustees, as at present, but nominations shall be made from the list of Associates only, and a majority of the votes of Fellows shall be necessary to elect, the result of such elections to be declared at each annual convention."

Evidently the power to elect fellows had been given back to the Board of Trustees, and very evidently there had arisen a considerable dissatisfaction with the general situation. At the convention a paper was read by Mr. Mason. It had been prepared by Mr. Charles P. Harts-horn, Secretary of the Rhode Island Chapter, and is in the nature of a report upon the then proposed changes in the Constitution and By-laws. From this we take the following:

"The present distinction between Fellows and Associates (which in practice is governed only by the willingness to pay \$15 or \$7.50 per annum) should be abolished, and if any distinction is made it should be based on very different grounds. I would suggest that the number of Fellows be limited; that all members should enter the Institute as Associates; that when a vacancy occurs in the Fellowships, it should be filled by election at an annual convention by a three-fourths vote (of all members present by ballot), from the Associates who have practised the profession as principals not less than twenty years, or who have attained to eminence through important works well executed. This would make the rank of 'Fellow' at once an index of the standing of the recipient in his profession, and a prize to be worked and hoped for. (As it is now it will not be denied that the Associates are the equals and in some cases the superiors of the Fellows.) As the only path to Fellowship will be through the lower grade, it will be an inducement for all to enter that grade."

Little of the discussion is revealed in the proceedings, but when a member asked or suggested that the number be increased to one hundred, for the limit, Mr. Haight replied for the Board of Trustees that:

"they thought best not to make the number too large at present. There are now about fifty-five Fellows, and the limitation of that number would offer a premium to Associates to seek the rank of Fellows. At some future time it might be wise to extend the limit; but the theory of the Trustees was that the number of vacancies should always be less than that of applicants, otherwise the desire to attain to that rank would fall off very much."

The amendments were adopted and were as follows:

Article 1, Section 1. The number of Fellows of the Institute is limited to seventy.

Section 2. (Deals with the method of election, which remains substantially unchanged.)

Section 3. The Board of Trustees shall have power (without referring the matter to Chapters) to elect Fellows from among the older architects who do not belong to any Chapter organization, without the proviso of a semi-examination, i. e., by the presentation of plans and designs showing their work.

Section 4. The Board of Trustees shall have power, in their discretion to advance from the grade of Associate to that of Fellow any of the former who may have distinguished themselves by any specially meritorious work. Such advancement may be made without consultation with Chapters, and be considered as an honorable distinction; and the usual entrance fee of Fellows shall be remitted in such cases; but otherwise they shall be subject to the same annual dues as Fellows regularly nominated and elected.

Section 5. As soon as there shall have been seventy Fellows elected, as above provided, the above sections (2, 3, 4) shall become inoperative; and the following sections (6, 7, 8) shall go into operation.

Section 6. No person shall be elected a Fellow unless he is a practising architect, and shall have been proposed by two Fellows, and shall have been an Associate of the Institute for a period of at least twelve months immediately preceding his nomination.

Section 7. The name of every candidate, his residence, and the names of his proposers, must be mailed by the Secretary to every member of the Institute at least thirty days before the Annual Convention.

Here was a serious, if misguided, attempt to grapple with a situation which had all unconsciously developed. It is apparent that the title of fellow was not very highly esteemed, and that its acquisition was not hedged about by any qualifications such as should exist to achieve the object desired. The injustice of limiting the number to seventy was evidently not recognized, although a fundamental injustice resides

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in every such limitation, and the problem seems to have been considered very largely from the practical standpoint.

The limitation was short-lived. In 1882, a vital difficulty had presented itself. By limiting the number of fellows, a limitation was imposed on the formation of new Chapters, which then required five fellows to organize. A committee was appointed to consider the whole question of membership and report its views on the subject within eight months, by circular, to the members of the Institute. This report was presented to the convention of 1883, and its recommendations were pointed out in the report of the Board of Trustees. The discussions are not contained in the proceedings, but the report as adopted is there printed, and is embodied in the By-laws, the next edition of which appears to be that as amended October 20, 1887. They are as follows:

"Fellows shall be such practising architects as shall, upon nomination by two Fellows, be elected by the Board of Trustees. The name and residence of every candidate, and with information in regard to his professional education and length of practice, shall be forwarded to the Secretary who shall thereupon send to every Fellow and Associate of the Institute a circular containing the name and residence of the candidate, the names of his proposers, and the following questions:

"Do you know the candidate proposed in the circular?

"Do you regard him as possessed of artistic, scientific and practical knowledge sufficient to fit him for the practice of the profession of architecture?

"Have you any reason to doubt that he pursues the honorable practice of the profession in accordance with the Constitution of the Institute?

"And every Fellow or Associate possessed of information in regard to the candidate shall deem it his duty immediately to answer in writing over his signature the above questions to the best of his knowledge and belief.

"A circular letter shall also be sent to each Chapter with the question: Does your Chapter know of any reason why ——— should not be elected Fellow of the A. I. A.? If you do, please state the reason in full and return reply to the Secretary of the A. I. A.

"The Secretary shall obtain information in regard to every candidate by personally examining, when possible, his executed work, and must see and examine his drawings, specifications, etc., and inform the Board of Trustees of the result of his examination, but the Board may dispense with the examination of drawings, etc., when they consider it unnecessary.

"At any meeting of the Board of Trustees, held not less than twenty days after the issuing of the circular, it shall be in order for them to consider all communications in reference to the person proposed, to hear the report of the Secretary, which shall be fully entered upon the records, and to proceed to ballot for his admission. Any candidate

who shall receive three-fifths of the votes cast, not being less than five votes, shall be declared elected.

"But should the opinion or verdict of any Chapter be adverse to the candidate proposed for membership in the Institute who may have resided or who is now residing under the jurisdiction of said Chapter, the same shall be considered binding upon the Board of Trustees in this matter.

"The Board of Trustees shall, after consulting each Chapter to see if there is any reason why such action should not be taken, have power, in their discretion, to advance from the grade of Associate to that of Fellow any of the former who may have distinguished themselves by any specially meritorious work. Such advancement shall be made, etc. (See 1881.)"

These By-laws are cited in full because their completeness represents the increasing perplexity which membership relations were causing the parent body. There appear signs that the powers of the Chapters had increased, and that the powers of the Board of Trustees were being gradually limited, yet no satisfactory standard of fellowship had yet been evolved and fellows could still be elected directly to the Institute. During each of the next succeeding years, up to the famous consolidation convention of 1889, the number of fellows directly elected was generally in excess of the number advanced from associateship.

At the convention of 1889 it developed that for the preceding year there had been a tacit agreement between the Institute and the Western Association under which no serious attempts were made to increase the membership of either body pending the final amalgamation of the two bodies on the terms which were then under discussion. By the adoption of the amended By-laws at this convention, jointly held by the two bodies, all members both of the Institute and of the Western Association became fellows and the associate membership was extinguished. The next edition of the By-laws, that adopted and amended at the Convention of 1889, thus contains the following striking section:

"The Institute shall consist of Fellows, of Corresponding Members and of Honorary Members."

It thus seems plain that, in the process of amalgamation, the necessity or advisability of which was no doubt due to the fact that problems of professional practice required coördinated effort and the backing of greater numbers, the fellowship class of members was one of the crucial points at issue, and that it became necessary either to abolish the title or confer it upon

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all, at one stroke. The Institute had strayed a long way from its conception of membership as revealed under the original constitution, but it had likewise advanced a long way upon its now well-recognized task of winning increasing respect and appreciation for its members.

It may be interesting at this moment to examine the situation in respect to membership in the R.I.B.A. In its original charter of 1837, fellows are not described, but in the amended charter of 1887, they are stated to be:

"Architects who have attained the age of thirty years and who have been engaged as principals for at least seven successive years in the practice of Architecture. After the expiration of five years from the date of our Charter the Royal Institute shall have power to declare that every person desiring to be admitted as a Fellow shall be required to have passed such examination or examinations as may be directed by the Royal Institute. But in special cases the Council shall have power to dispense with such examination or examinations."

It will be noticed that the power of prescribing examinations was permissive, and that the Council still had large discretionary powers. That the question was not settled by the new charter is indicated in the following clause of the supplemental charter of 1909, in which it is provided that:

"After the date of this our Charter, no person shall, save as hereinafter provided, be admitted as a Fellow of the Royal Institute unless he shall at the time of admission be either (a) an Associate of the Royal Institute or a person who has passed an examination qualifying for admission to the class of Associates or (b) a Licentiate who has passed such examination or examinations as may from time to time be prescribed by the Council as a qualification for admission of Licentiates to the class of Fellows. Provided, however, that the Council shall have power to elect and admit as a Fellow any architect who shall have attained the age of thirty years and shall have been engaged as a principal for at least seven successive years in the practice of architecture as to whom the Council may resolve that it is desirable to elect and admit him as a Fellow."

This is the provision now obtaining and shows that the Council of the R.I.B.A. has power, in its discretion, to elect a fellow directly to membership, a power which does not now reside anywhere in the American Institute of Architects.

In 1891, the Constitution declared that:

"The condition of membership of Fellows shall be the honorable practice of the profession of architecture, in accordance with the Constitution and By-laws of the Institute,"

while the By-laws provided that:

"Fellows shall be practising architects residing in America, whose professional status shall be demonstrated to comply with the Constitution, and who shall be admitted or elected in the manner hereinafter set forth."

(Here follows a description of the method of balloting.)

"If upon counting the letter ballots received, it is found that five or more ballots have been cast against the admission of any candidate, he shall be declared rejected—otherwise he shall be declared duly elected a Fellow of the Institute.

"After October 23, 1890, no one shall be admitted to Fellowship in the American Institute of Architects who is not already a member of a Chapter of the Institute and whose admission to such Fellowship has not been recommended by the officers of his Chapter."

These By-laws rescind the provision of 1880, which was also modified in 1882, and for the first time wholly take away from the Board the power to elect to fellowship without the approval of the Chapters. There were at that time no associates, so that no rule was needed for advancement from that grade. Election was to fellowship itself.

In 1894, a further amendment provided that:

"No one shall be admitted to Fellowship in the American Institute of Architects who is not already a member of a Chapter of the Institute, or provisionally elected as such, and whose admission to such Fellowship has not been recommended by the officers of his Chapter, except as provided in Article X."

This was as follows:

"A practising architect whose professional office is at a greater distance than 25 miles from the headquarters of any Chapter may apply, in the manner heretofore prescribed, and become a Fellow of the Institute without first becoming a member of any Chapter and being approved by the officers of the same; but he shall become a member of a Chapter whenever one shall become available within the said limit."

This reaffirms the provision of 1891, but also takes care of the difficulties which had been found in electing architects to membership who were not located in the territory of Chapters, or who were so far away from headquarters as to preclude an advantageous membership.

Section 3 of this same Article X, (then known as the "Famous Article Ten") made it mandatory for Chapters to create Chapter memberships, even fixing the fees. It was thus proposed to elect to fellowship direct from Chapter membership, and to prevent the direct election of fellows. But it must again be remembered that there was but the one class of members in the Institute and that these restrictions were not

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primarily thrown about the title of fellowship but about membership itself. Yet to encourage new memberships in territory where there were no Chapters, all restrictions as to Chapter membership were waived. This was not so unfair as it would at first appear, for Article X also provided that:

"Every practising member of a Chapter of the Institute admitted under the provisions of Section 3 of this Article, shall become a Fellow of the Institute, and no election of such new practising members shall take effect until the Institute shall have elected the candidate to Fellowship."

Thus a Chapter member had immediately to make application for membership in the Institute, but as there was but one class, he applied for election as a fellow. Evidently, as soon as a man had been taken into a Chapter, no others could be elected to Chapter membership until the preceding man had been admitted to the Institute. This seems to have been a provision for forcing Chapters to remain composed of Institute members, and a reading of the proceedings of this convention reveals a warm discussion and methods of parliamentary procedure which savor of the steam-roller. Yet nowhere is there any reference to the question of merit as applied to fellowship.

In 1898, things were much changed, for the Constitution now prescribes that:

"The membership of the Institute shall consist of Fellows, Associates, Corresponding and Honorary Members. The conditions of membership in which shall be honorable service in the field of one of the above classes of membership as defined by the By-laws. The title of Fellow shall be granted for professional merit only."

This is apparently the first time where a fellow has been distinguished in the records of the Institute as one upon whom the title is to be conferred for professional merit only. Yet at that time by far the majority of the members of the Institute had become fellows upon no such basis whatever, so that the distinction in the year 1898, and for some time thereafter, could not have been a much-coveted one. But it is worthy of note that by the enactment of this By-law, the Institute helped decidedly to create the opinion that a fellowship did imply professional distinction, and it may not be unjust to credit a large majority of the membership with a desire to endow their fellowship with a mark of quality such as they knew it did not then possess. Previous to this time, and at all

times in the history of the Institute up to 1898, application could be made directly for a fellowship, and the records show that most fellows were elected in that manner. The amendments of 1898 were reported by the Board of Trustees as having been adopted by letter ballot. They were also formally adopted at the convention, but the discussion is not recorded, so that one must search elsewhere for the basis which led to the restoration of the associate membership.

The By-laws adopted in 1898 were as follows:

"Fellows shall be resident architects of the United States. Architects engaged in professional education may be Fellows. A Fellow shall be a member of some Chapter within the state where his main office is located, if such a Chapter exists; otherwise he shall be a member of some Chapter in another state.

". . . Fellows who are not Chapter members at the date of the adoption of these By-laws (1898) shall be *ipso facto* members of a special Chapter-At-Large having the same right of representation as other Chapters.

"Fellows may only be chosen from the ranks of Associate members, except in special cases established by a vote of the Board of Directors; and each such exemption, with the reason therefore shall be reported by the Secretary at the following annual Convention. Election to the rank of Fellow shall be for professional merit.

"Application for Fellowship shall be made through the Secretary of the Institute, in accordance with the form prescribed. . . . (The form was as follows):

"I respectfully apply for Fellowship in the American Institute of Architects. I have carefully examined the Constitution and By-laws of the Institute, and agree, if elected, to honorably maintain and obey them."

(There was also provided a form of application for associates.)

The Board still had power to elect directly to fellowship, and applications for that degree could still be made directly by the candidates, but otherwise the power of electing to fellowship was taken away from the Board for the first time, although it was not yet placed in the hands of the convention. The method of election was elaborate and perhaps is worth quoting in full:

"When an application for Fellowship duly made out, shall have been received by the Secretary of the Institute, he shall announce the fact of such application to every Fellow within the Chapter to which the applicant belongs, and shall request from them, upon ballots furnished, a yea or nay vote upon the desirability of the candidate. These ballots shall be submitted, with the application, photographs, etc., to the Board of Directors, and shall form part of the evidence enabling the Board of Directors to determine the eligibility of candidate to election. If then or later on the Directors so determine, the Secretary shall cause letter ballots upon the candidate's election to

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be issued to all the Fellows of the Institute, except those in the applicant's Chapter, whose ballots, already cast, shall be counted in the general vote. The Board may postpone the action upon the application for a period of not over six months, within which time a general letter ballot must be ordered, or the candidate informed that his application is refused."

There was evident, at the enactment of these provisions, a growing tendency to challenge—not so much the merit of fellowship as the right to fellowship. For nine years the Institute had admitted members as fellows only. Yet it now restored the Associate Class. In seeking the answer to the question as to why this was done, we must again recognize the pressure of outside forces which needed greater numbers successfully to combat them. The Institute had changed—or was in slow process of changing—from a professional body of the early type to one where there was an insistent demand for help in raising the standards of the profession. It was then a body of 420 fellows and in the need for new members it is possible to infer that there was a due recognition of the fact that the title had long since ceased to have any particular meaning and a feeling that the time had come to grapple seriously with the problem of making it a coveted distinction. Yet it was not to be made too difficult of attainment. Applicants for membership could not be too greatly discouraged. Nor were they, it appears, since 60 associates were elected during the ensuing year.

In 1902 the following significant amendment to the By-laws appears:

"The Board of Directors may each year nominate from among the Associate Members of the Institute as candidates for Fellowship those who, in the opinion of the Board, have notably contributed to the advancement of the profession in design, construction, literature or education. The names selected by the Board, after having been submitted to the Chapter from which the candidate comes, shall be submitted to the Convention following the nomination, and if confirmed they shall be Fellows of the American Institute of Architects."

(Here follows a description of the method of balloting. Five or more negative votes prevented election.)

This was the first step toward making the election to fellowship a matter for the convention finally to decide. In 1909 it was further provided that there should be a similar procedure for nominations from the Chapter-at-Large. In 1911, the following By-laws were adopted:

"There shall exist two classes within the Institute: an active class to be known as Members, and an Honorary Class.

"The conditions of membership in either of these classes shall be honorable service in its respective field as defined by the By-laws.

"Among the Members there shall be a body of Fellows. The title 'Fellow' shall be granted for professional distinction only."

The method of election is then prescribed, and is too familiar to need repetition here. The Jury of Fellows was given the power of making the nominations, and the names of the candidates were required to be submitted to the Chapters. This brings the history of fellowship in the American Institute of Architects up to the point of present-day practice. As of interest, it may be well to cite these figures:

In the *Annuary* of 1917, there are listed the names of 179 fellows who were among the 420 fellows existing when the Associate Class was restored. Of these 179, only 9 were advanced to fellowship from the Associate Class. All the others were directly elected to fellowship; thus, as there are 124 other fellows in the *Annuary* of 1917, duly advanced in accordance with the custom since 1898, the percentage of unadvanced fellows is 56 per cent of the total. Naturally this will now change.

A reading of this digest is sufficient to indicate the problems which lie in wait for those who would contrive a method of bestowing a distinction upon a class of members in a professional body which shall never work an injustice. The problem ought perhaps to be examined fundamentally, when one would ask the question—is a membership distinction a source of weakness or of strength? If it is a source of strength, how can it be conferred so that the preferments will always be just and every member treated fairly? Limiting the number is unfair, since it arbitrarily imposes a hazard—the hazard of living—in order to obtain what one may be justly entitled to in comparison with the ability or merit of those upon whom it has been conferred. Trying to raise the standard, at any time, always imposes an injustice, since it deprives a certain number of men from gaining a distinction upon the same basis on which it was conferred upon those who had the luck to come earlier. In simple justice, it must be clear, that once a basis of fellowship is established, all those who pass the qualifications prescribed shall be made

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fellows. To arbitrarily fix the number which shall be admitted in any given year imposes a hazard and an injustice, for the selection has then to be made upon some basis which shall appear to work the fairest. If fifty men meet the requirements at any time, they should in all fairness be treated alike. Otherwise, the injustice falls, not only upon them, but in so doing, carries with it the temptation to make selections diplomatically and without regard to actual degrees of merit. In certain societies, fellowships have fallen into such disrepute that men of any standing whatever would never think of using the designation after their names, for in the scramble for membership, restrictions were broken down until willingness to pay the extra fee demanded was the determining factor.

The problem is as old as the hills, but it takes on a new and more insistent character as social customs change, organizations grow, and the problems of professional practice become more and more closely involved in the turmoil of

restless change and evolution. In the United States, for example, to fix an arbitrary standard for fellowship in the American Institute of Architects is almost impossible, since conditions vary greatly throughout the country. That is to say, the standard in New York City, or Chicago, or other metropolitan centers, would naturally be higher than in certain other localities. Opportunity is here a factor. Yet the effort to establish the fellowship upon a just and equitable basis can be seen to have passed through many experiments. If fellowship is a source of strength, the problem should be met with all of these facts plainly before those whose duty it is to solve it. It is possible that there is no just method of at one and the same time conferring fellowship for merit and maintaining it upon the high plane where it should be kept—or it is possible that it is a necessary thing which can only be maintained through the tacit consent of the many to sacrifice themselves for the few, as a means of advancing the prestige of a calling.

The United States Housing Corporation of the Department of Labor During the War

Following the suggestion made by Mr. Robert D. Kohn, in the January number of the Journal, wherein he named the architects and draughtsmen who worked in the Housing Division of the Emergency Fleet Corporation, we herewith publish a list of those who were identified with the Housing Corporation of the Department of Labor. This list was kindly furnished by Mr. Lionel Moses, Assistant Manager of the Corporation.

Ames, J. W.
Bennett, Harry, Architectural Division.
Belcher, H. D., Construction Division.
Blount, Geo. F., Architectural Division.
Boyd, D. K., Requirements Division.
Brown, Ambrose A., Construction Division.
Child, Stephen, Town Planning Division.
Cook, W. W., Construction Division.
Comey, Arthur C., Town Planning Division.
Cross, John W.
Crow, Jules
Desmond, T. H., Town Planning Division.
Dodge, R. I., Construction Division.
Dunning, N. Max, Requirements Division.
Dyer, M. A., Architectural Division.
Ellis, C. M., Requirements Division.
Fenner, Burt L., General Manager.
Francis, Frederick L., Design Information Section.
Gilkison, A. H., Architectural Division.
Goldberg, Ralph, Architectural Division.
Hamme, John B., Construction Division.
Hare, Herbert S., Town Planning Division.
Hubbard, H. V., Town Planning Division.
Ittner, Wm. B.
Jordan, Robert F., Architectural Division.

Kern, LeRoy E., Design Information Section.
Korn, Nathan, Architectural Division.
Krolyn, J. F., Architectural Division.
Kruse, Arthur M., Town Planning Division.
LaFarge, C. Grant, Assistant General Manager.
Leland, J. D., 3d., Vice-President.
Lewis, Wm. C., Construction Division.
Lippincott, Thos. B., Construction Division.
Lord, Austin W., Production Division.
McCulloch, R. A., Construction Division.
Mahurin, Guy N., Construction Division.
Martin, H. W., Construction Division.
Morton, H. W., Architectural Division.
Moses, Lionel, Assistant General Manager.
Olmsted, F. L., Town Planning Division.
Outher, R. A., Town Planning Division.
Parker, Carl R., Town Planning Division.
Painter, Walter S., Construction Division.
Ramsdell, C. H., Town Planning Division.
Roberts, Frank, Architectural Division.
Sauer, Andrew J., Construction Division.
Snow, Raymond C., Construction Division.
Southgate, Donald W., Requirements Division.
Stone, James H., Architectural Division.
Temple, Geo. F., Architectural Division.
Treat, Albert W., Construction Division.
Van Pelt, John W., Production Division.
Videto, T. E., Construction Division.
Vogt, Oscar G., Design Information Section.
Walsh, J. C., Architectural Division.
Webster, Daniel T., Construction Division.
Willis, Wm. B., Architectural Division.
Winslow, H. L., Construction Division.
Worthington, A. M., Construction Division.
Wright, C. W., Construction Division.
Wyman, A. P., Town Planning Division.

Obituary

THEODORE ROOSEVELT

Honorary Member, A. I. A., 1909

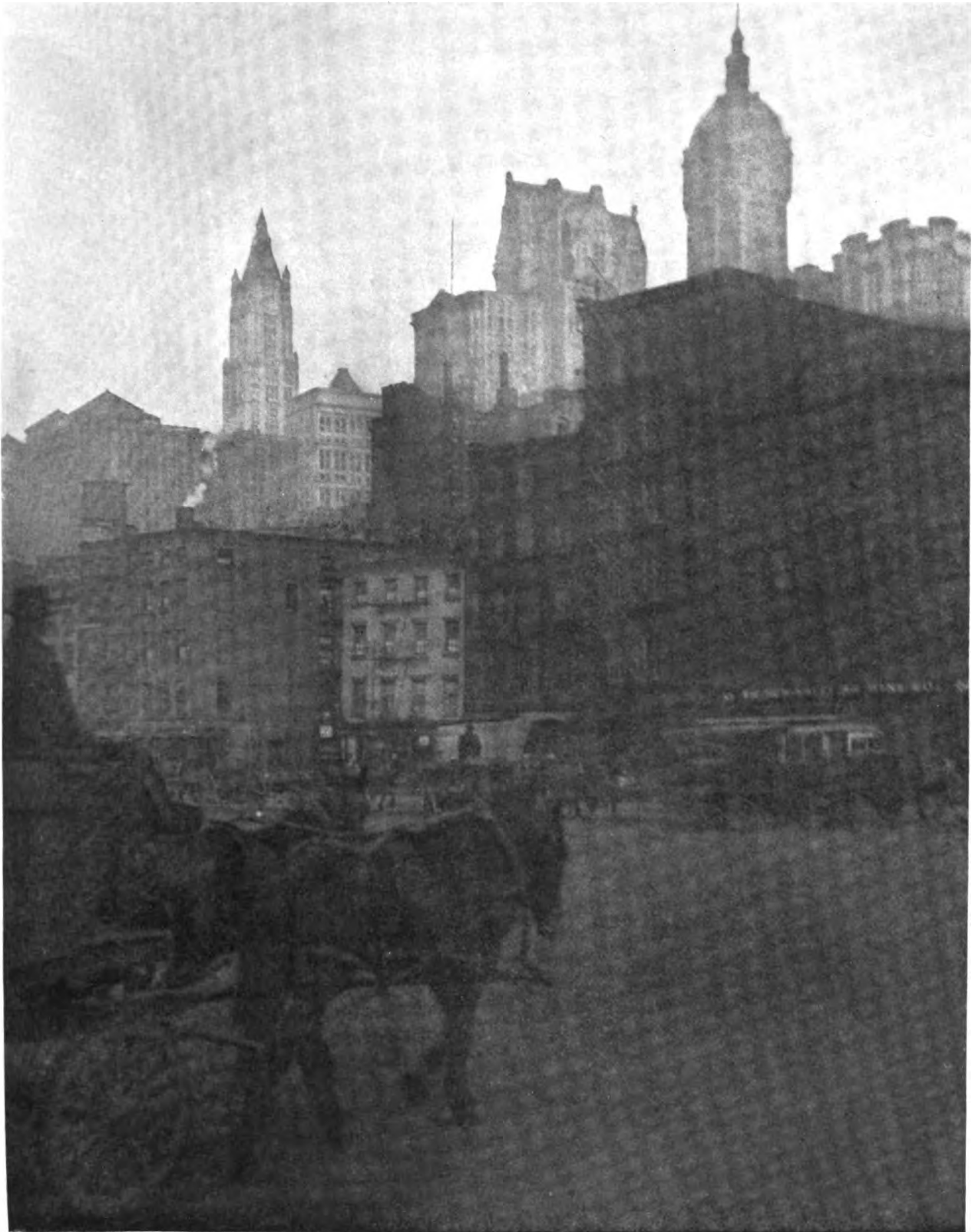
THEODORE ROOSEVELT, twenty-sixth President of the United States, was an honorary member of the American Institute of Architects. That the Institute should have so signally honored itself, by conferring such honor as it could upon the foremost citizen of this country, was no perfunctory act. Rarely has honorary membership been more significant. For it grew from that same thing that kindled so many fires in the hearts of those whose worthy aims led them to the touch of this, the greatest heart of all. It was not that he was a patron of the arts; not that he was a connoisseur. It was that nothing human, nothing good, was foreign to him; that no honest plan of betterment presented to him would fail to elicit the swift response of his keen mind. So it was that he, with far less of the esthetic in his extraordinary nature, far less of apparent qualifications than many who lagged, understood and supported the Washington Plan; chose with perfect wisdom those who should make the White House the place of dignity it was meant to be. And so it was when Institute representatives laid before him the need for some orderly expert control over the character of what was designed for Government; they met with instant, lucid comprehension and there followed without delay that which vividly distinguished the whole career of Theodore Roosevelt—action. Thus was established what became the National Fine Arts Council.

None of the men who went to him that day can ever forget the experience. Accustomed to delay, to the need of tedious exposition, to lack of interest, to hope deferred, they found a vision that outran their own, a lightning rapidity of execution that meant they must bestir themselves to follow.

Whether to work or to play with him was to be swept upon the strong current of his indomitable energy into regions where old things wore new aspects, where the horizons of one's world were extended; was to feel one's sluggishness and inertia, one's timidities and above all, one's selfishness, to be shameful.

To our profession he rendered great service; as individuals we shared in what was probably his highest gift to American citizens, the quickening of the public conscience.

C. GRANT LA FARGE



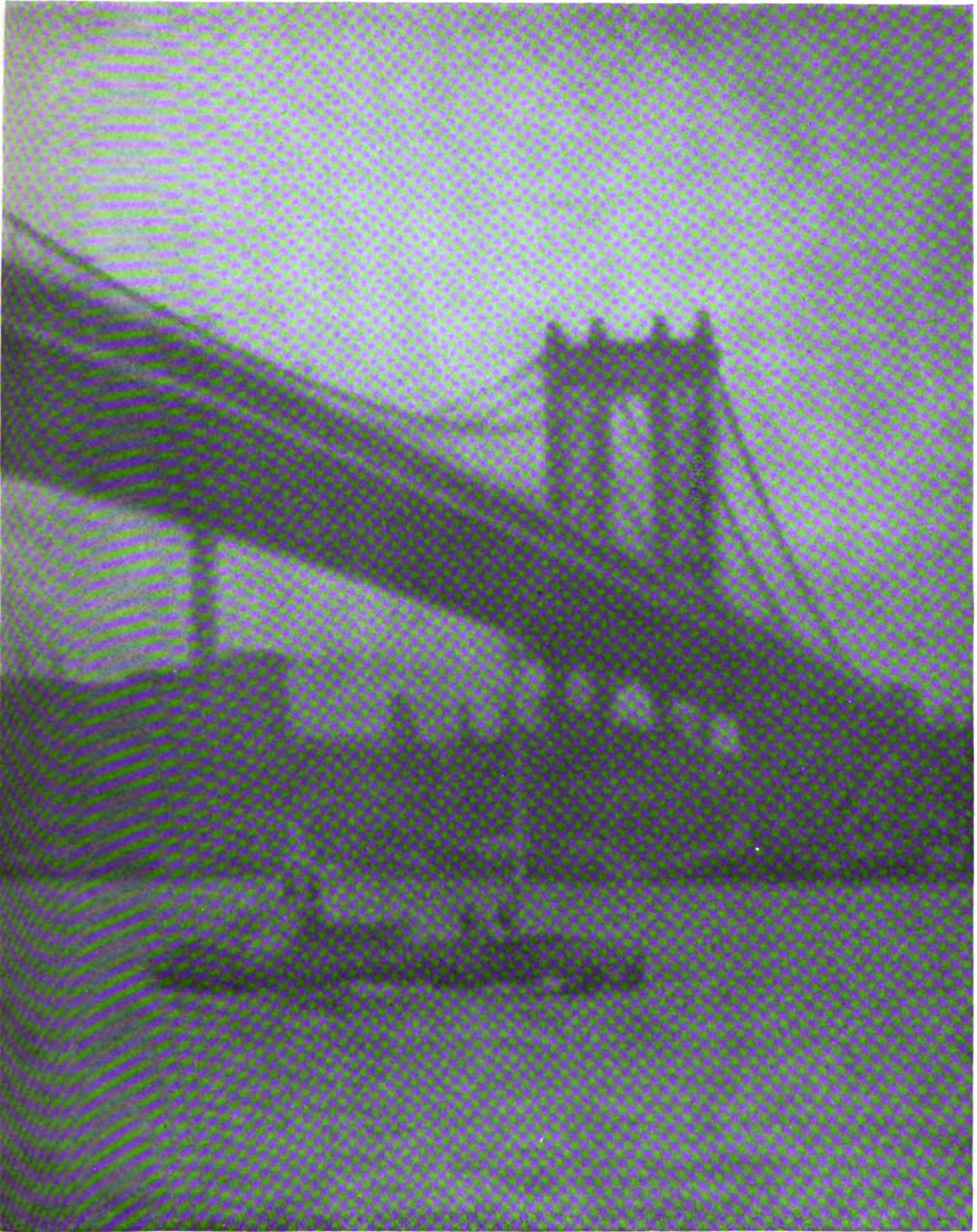
WEST STREET, NEW YORK CITY

Kenneth Clark



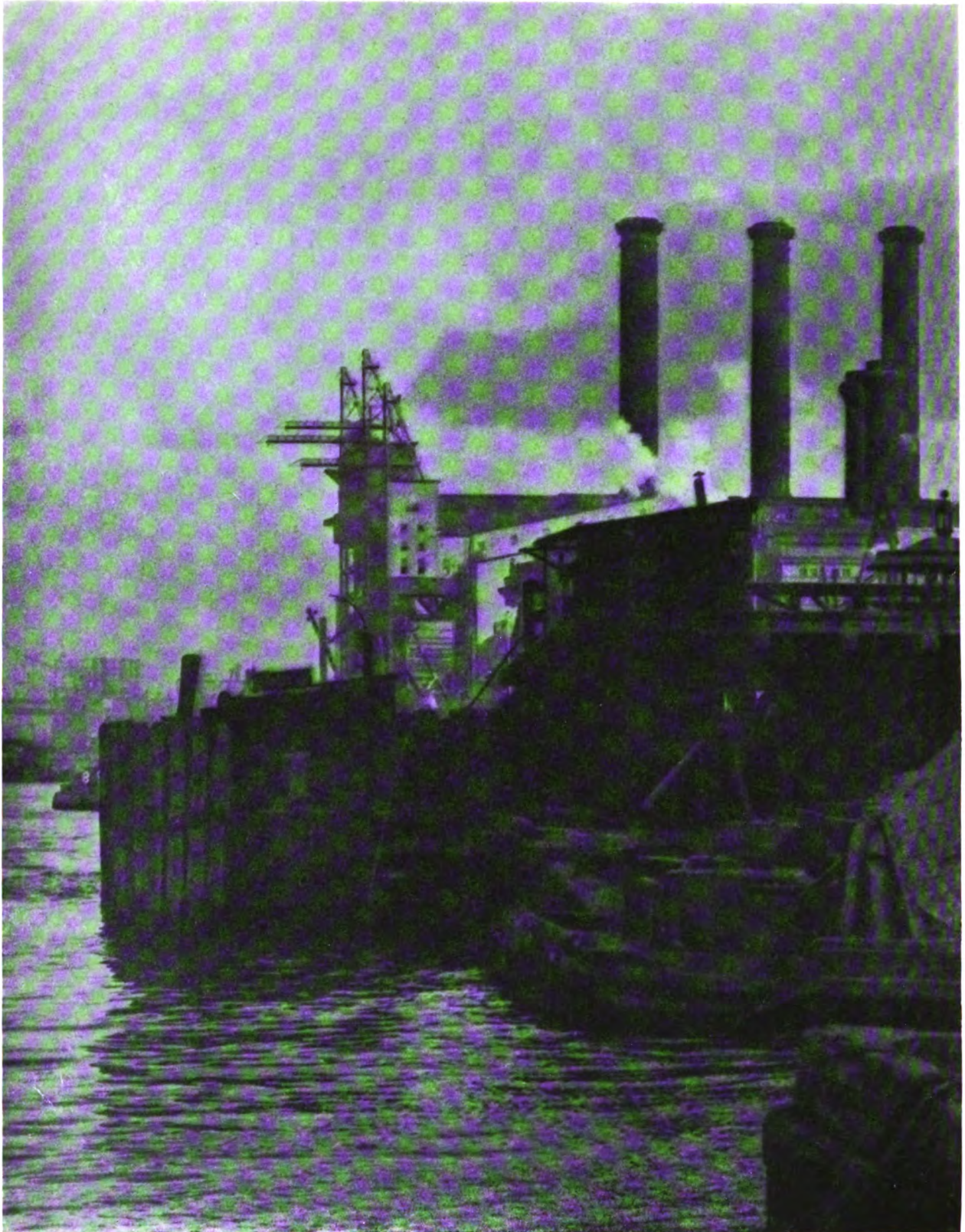
WOOLWORTH BUILDING FROM THE WEST, NEW YORK CITY

Kenneth Clark



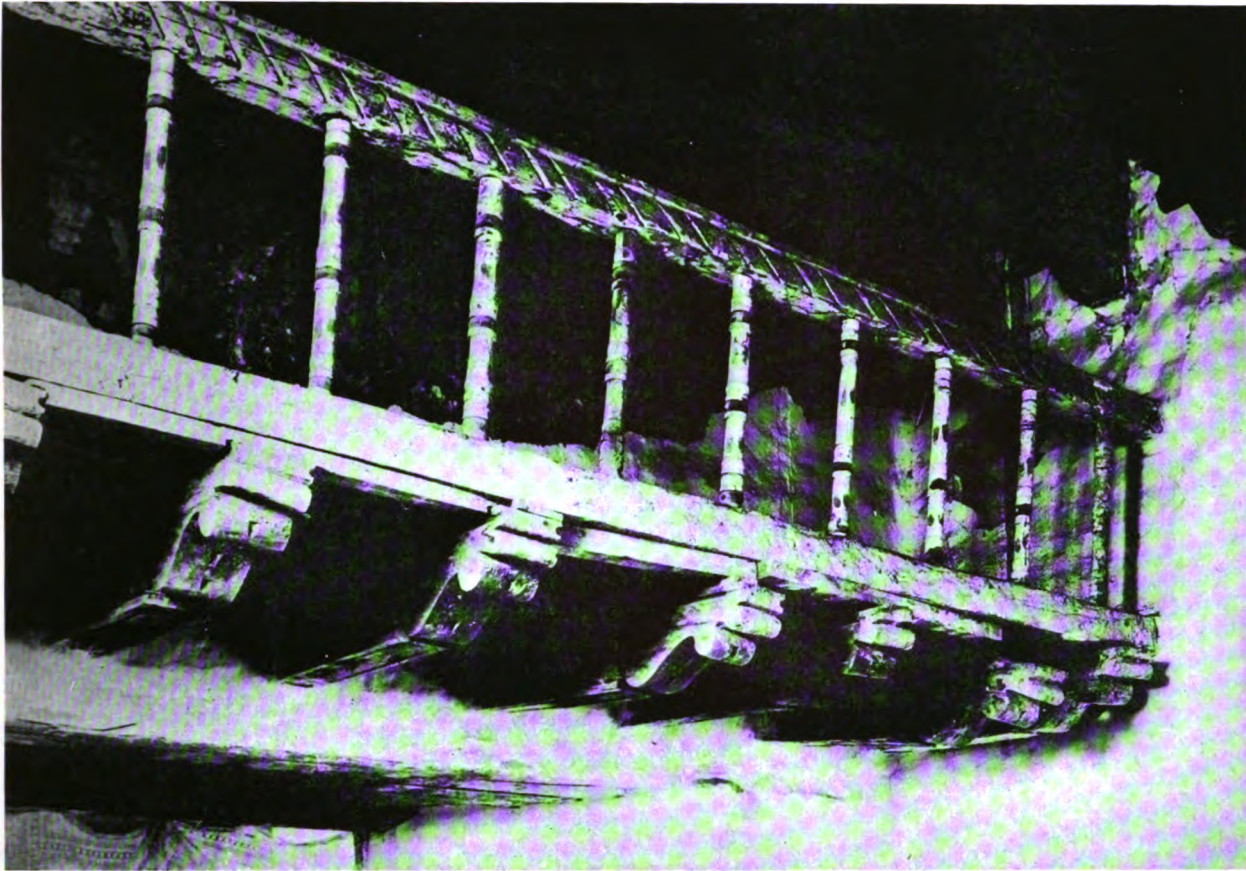
WILLIAMSBURG BRIDGE, NEW YORK CITY

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ON THE WATER FRONT, NEW YORK CITY

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BALCONY IN NORTH CHAPEL, SANTA CRUZ DE LA CANADA, N. M.

The Archaic Architecture of New Mexico

By WILLIAM TEMPLETON JOHNSON

Photographs by Jesse L. Nusbaum and the Author

IN the United States our progress in architecture has in the main consisted of tearing down and building anew. Even in the oldest cities of the Atlantic seaboard, there are comparatively few buildings which can really be called landmarks, and these, owing to our lack of respect for what the French call "monuments," exist in decreasing numbers.

To those of us who are wont to think of Wyck or Mount Vernon as having a venerable old age, it is astonishing to discover that before the first of our forefathers landed at Plymouth Rock there flourished along the Rio Grande Valley, in what is now New Mexico, an architecture so virile and enduring that, although the buildings were constructed of sun-dried bricks, numbers of them still exist and are in use today.

Excited by the marvelous stories of Friar

Marcos, of Nice, about the "Seven Cities of Cibola," Vasquez de Coronado organized an exploring party in Mexico in 1540 and spent three years wandering through the Southwest, penetrating as far as the plains of Kansas and discovering the Grand Canyon of Arizona.

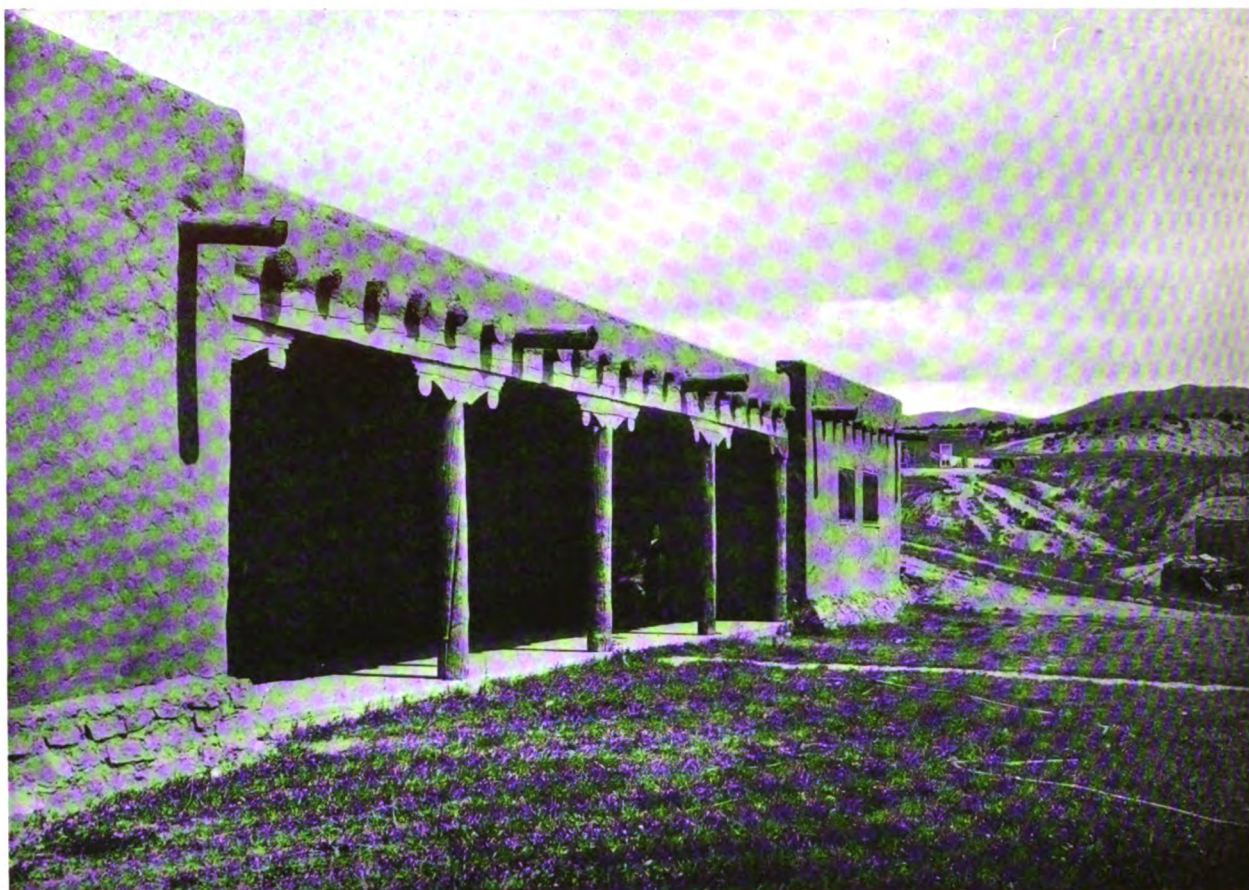
The Spaniards found none of the gold and precious stones described by Friar Marcos, but were tremendously impressed with the mode of life of the Indians they encountered. These Indians lived in vast communal houses, or pueblos, sometimes rising to a height of five stories and containing as many as fifteen hundred rooms. Coronado's soldiers spent a winter in one of these rookeries and it is best described in the words of his chronicler Castañeda:

"It is square, situated on a rock, with a large court or yard in the middle, containing the estufas. The houses are all alike, four stories high. One can go over the top

of the whole village without there being a street to hinder. There are corridors going all around it at the first two stories, by which one can go around the whole village. These are like outside balconies, and they are able to protect themselves under these. The houses do not have doors below, but they use ladders, which can be lifted up like a drawbridge, and so go up to the corridors which are on the inside of the village. As the doors of the houses open on the corridor of that story, the corridor serves as a street. The houses that open on the plain are right back of those that open on the court, and in time of war they go through those behind them. The village is enclosed by a low wall of stone."

nearly twenty-five churches were built in the Rio Grande Valley. While the buildings were probably designed by the priests, the style of architecture seems to have been strongly influenced by the manner of building of the Pueblo Indians who undoubtedly supplied the greater part of the manual labor.

The appearance of these Mission churches was archaic and very massive. They were usually cruciform with the apse in the shape of half a hexagon. The roofs were nearly flat with



HOUSE OF SYLVANUS G. MARLEY, ESQ., SANTA FÉ, N. M.

For nearly sixty years after Coronado's remarkable trip the Indians were left in peaceful possession of their lands, but in 1598 the Rio Grande Valley was permanently occupied by the Spaniards and the work of converting the Indians began at once.

The zeal of the priests was fully as great as that of the two martyrs who stayed behind with the Indians rather than return with Coronado to Mexico. Between the years 1600 and 1630

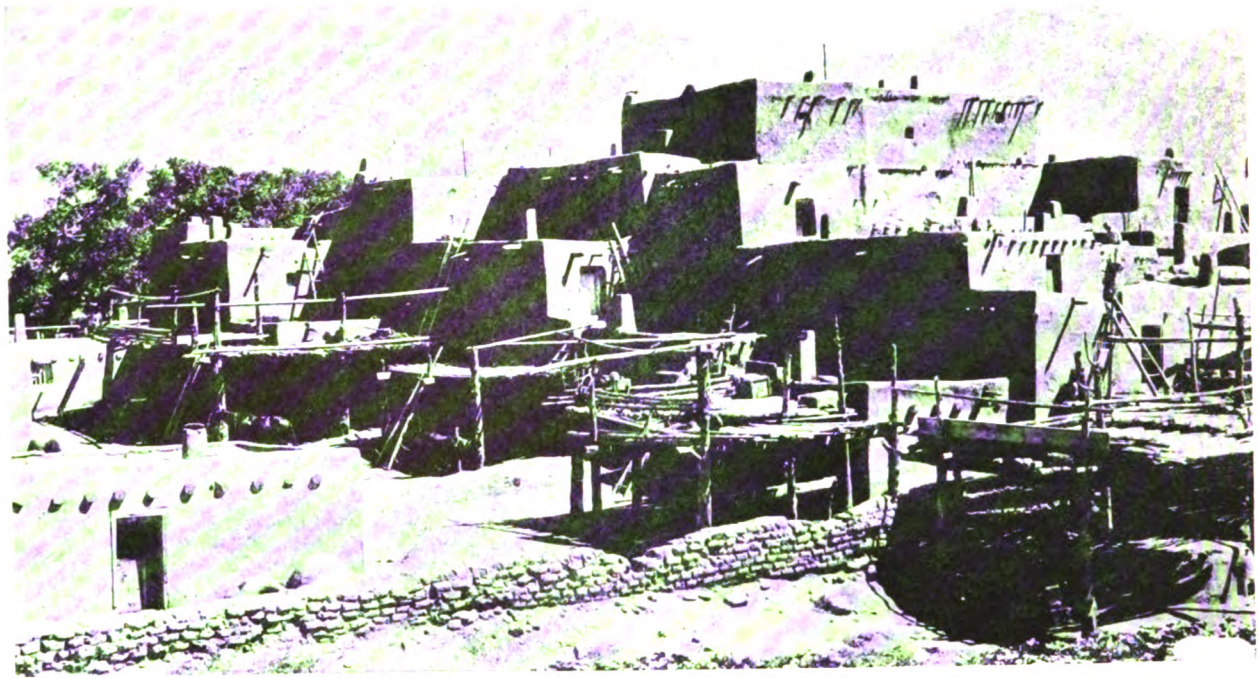
parapet walls. There were flanking bell-towers and usually balconies supported between the bell-towers by great beams. Often there was another corresponding balcony just within the church. A typical feature was the walled fore-court with a huge wooden cross, and there were usually irregular masses of monastic buildings attached to the churches. With the exception of a few churches built of rubble stone, all the building material was sun-dried (adobe) brick,



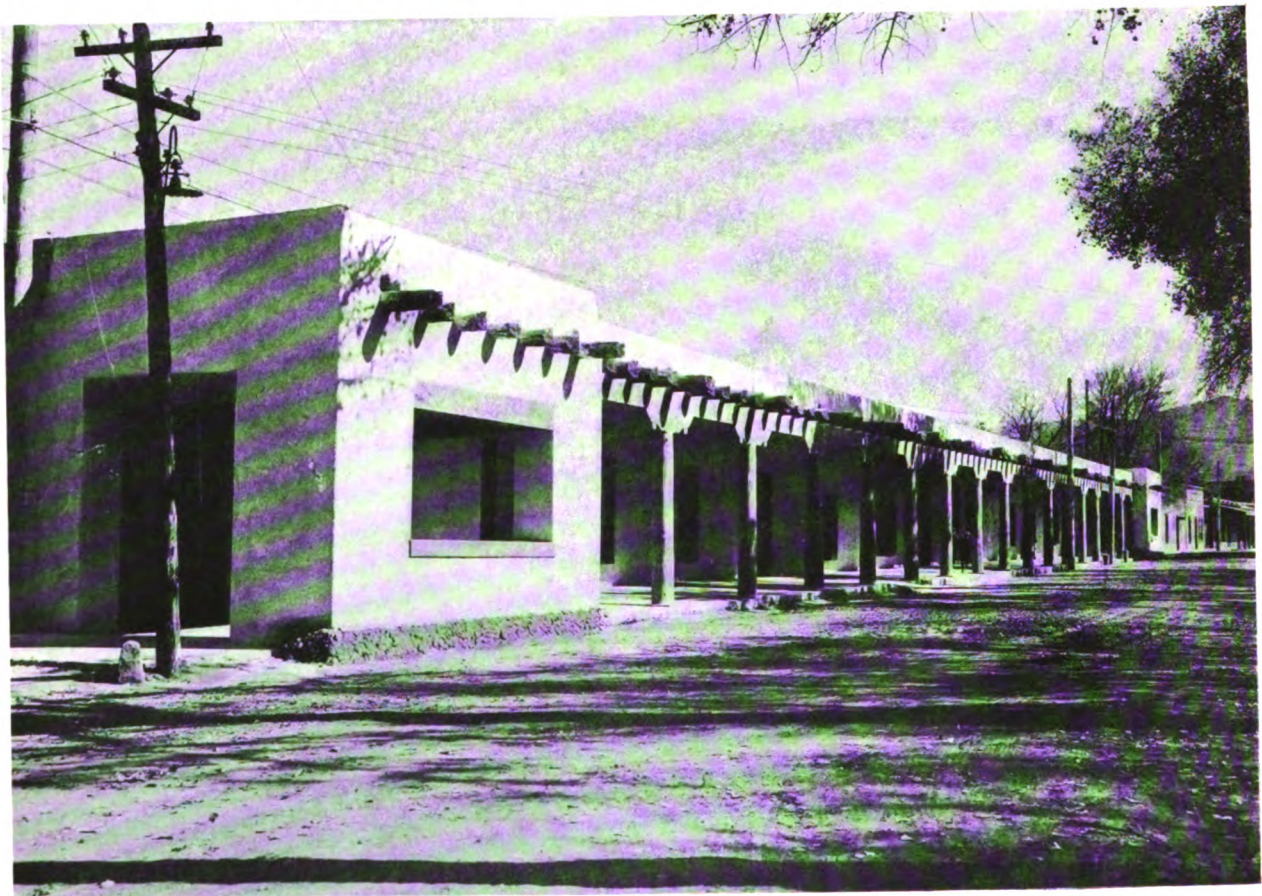
PICURIS CHURCH, N. M.



SANCTUARIO, CHIMAYO



PUEBLO OF TAOS, N. M. OCCUPIED BEFORE SPANISH CAME IN 1540



PALACE OF THE GOVERNORS, SANTA FÉ, N. M.—A. D. 1606, RESTORED 1909

THE ARCHAIC ARCHITECTURE OF NEW MEXICO

the walls being 4, 6, even as much as 10 feet thick. Enormous buttresses of various shapes were used, apparently where fancy seemed to dictate, but probably at points where the walls seemed to be weakening with age. The windows were small and infrequent and the doors, with the exception of the great entrance doors, small and low. The lintels were of heavy pine timber, the arch being used in only two known instances.

By far the most interesting detail of these churches was the method of forming the roof, massive pine logs being used for this purpose. The span was sometimes as much as 30 feet and, as the timbers extended through the outside walls, the logs had in some instances to be over 40 feet long. These timbers, spaced about 2 feet 6 inches apart, were either left in the round or roughly squared. Over them were placed small cedar poles about 2 inches in diameter laid herringbone, and this framework served for the roof proper of puddled adobe anywhere from 1 to 2 feet in thickness, pitched to rain-spouts formed of gouged-out logs. The weight of the roof beams was enormous and to relieve it single or double corbels were used, the butt ends, like the beams, running entirely through the walls.

This corbel with the bolster or bracket capital, used so extensively in New Mexico, seems to have been imported by the priests. Its line of genealogy, apparently, is as follows: The acanthus leaf modillion of the Roman cornice was freely used in the Italian Renaissance as a bracket or console; thereafter it was introduced into Spain and, with their usual liberty in architectural detail, the Spanish architects proceeded to graft it on a Doric capital in various forms.

In Mexico the bracket appears again in wood over stone columns and, finally, in New Mexico as the crowning feature of a wooden post. As will be seen from the illustrations, there are quantities of variations of both corbel and bolster, some simple and others ornate, though the carving is usually confined to what a neophyte could do with a gouge and chisel. Sometimes the beams, as well as the corbels, were carved and when the carving was colored the effect must have been very striking. The old beams occasionally reveal a trace of the original coloring, but most of the examples have been retouched by modern "experts."

The secular buildings are just as characteristic in their treatment as the churches. There is the inevitable "portale" or entrance porch with the bolster capitals, the placita or central court, the strong accent on horizontal lines, the small windows, the buttresses—these features proclaiming close kinship with the architecture of the Pueblos, even to the outdoor ovens and



SANTA CRUZ DE LA CANADA—FRAMING OF CROSSING. TRIPLE CORBELS EACH 12" THICK

festoons of peppers hanging upon the walls to dry.

The simple mass of these ancient buildings, the water-worn softness of outlines, the warm tones of the adobe—all these qualities, contrasted with the matchless sky of New Mexico, go to make an impression of picturesque quality which is very striking.

In New Mexico the adobe architecture is the architecture of the soil and no other type seems to harmonize so well with its semi-desert sur-

roundings. For a long time its appropriateness and picturesque quality remained unappreciated. Some of the finest Mission churches were allowed to fall into shapeless masses of ruins from sheer neglect and others have been restored with a barbarity that would make Wyatt the iconoclast turn in his grave. Within the last few years, however, a distinct effort has been made to rejuvenate the style. The Santa Fé Railway erected a fascinating little hotel at Lamy, New Mexico; the old Palace of the Governors, dating from 1606, was shorn

of its Mary Ann portico and carefully restored; quite a number of other buildings, including a sanitarium and an industrial school, have been designed; and the New Mexico building at the San Diego Exposition had for its prototype the ancient Mission church on the Rock of Acoma. A new Museum building at Santa Fé, costing \$100,000, has recently been dedicated and in a year or two the architecture of this, the second oldest city in the United States, will form a novel study for any architect who is interested in things archaic and picturesque.



CHURCH AT ACOMA, A. D. 1629



GRANADA

Granada of the Moors

By GEORGIANA GODDARD KING

Photographs by E. H. LOWBER

GRANADA must be seen in the spring to be rightly prized. Only when the orchards are in bloom, and nightingales in song, and only with mind duly attuned by much reading in the old romances, and more reading in the older chronicles, should the traveller draw near. Granada should be approached with the memory of Muza and Celin, familiar and kindly; with Abencerrages, and Zegrís, and el rey Chico, warm at heart; with the pity and sorrow of a lost cause and a foredoomed race stirring among the thoughts like evening airs in a pine forest.

The Vega of Granada was famous; the wide bottomland, sheltered all winter by the mountains, watered all summer from the melting snows. The Magnífico Micer Andrés Navajero, as the Spaniards called him, who was ambassador of the Venetian republic to Charles V, came there in the May of 1526, not a generation after the fall of the city, and he never wearied of tasting the gardens and counting the fountains.

"The Darro comes down from the mountains between very fair fells," he writes, "that form a dale full of delicate fruit trees, so many that they make a wood; through that goes the river,

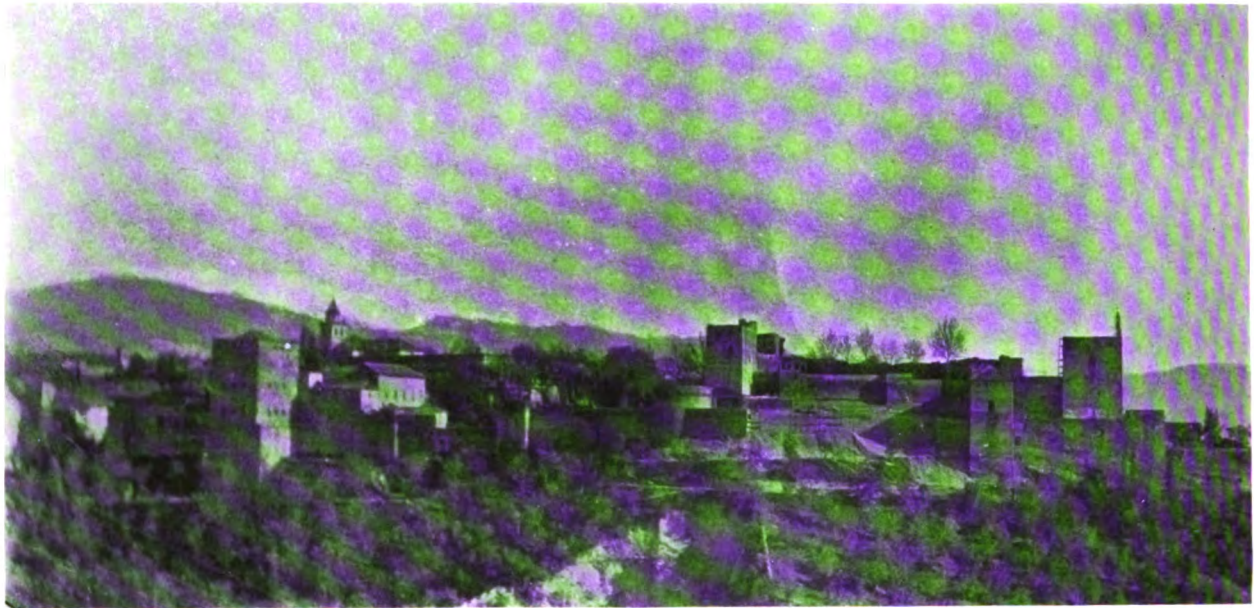
murmuring among great boulders aplenty that lie in places of the channel, and elsewhere it runs silently; its banks are dark, lofty, and covered with green, very pleasant, peopled on one or the other side with many little houses, with their little garden-plots, half hidden among the trees that form groves. The water divides into streams and there seems but little, save when it rains, and shallow, and so clear that it seems less;" then he passes on to an account of the system of dams at different levels, and of open and subterranean canals for irrigation, and for "mills and other engines." "The dale through which the river flows is fair and pleasant, and receives as many graces from the stream as it lends thereto; the fells that encompass it are tilled to the top and so full of trees that they seem a wood; where the husbandman mounts not, the dale is full of shrubs, ferns, and other such like plants, by which the Darro passes till it enters Granada. There it runs at the foot of the Alhambra hill, crosses the streets of the city, runs under the square that you wot of, and when it quits Granada falls into the Genil."

The other side of the city the Vega is richer, more apt for gardens, and they supplant the

farm and woodland above. "All that part which lies below Granada, is right comely," says Navajero, "full of granges and parks, with founts and gardens and groves: and in some the fountains are large and fair, and these surpass the rest in curiosity and beauty, yet all the other parts that lie about Granada differ not much, all are comely, all marvelously pleasant and so abounding in water that there could not be more, and set with fruit trees of all sorts, plums of all kinds, nectarines, figs, peaches, apricots, cherries, and others, that scarce the sky shows, for the leafy boughs. All the fruits are exceedingly rich but a special kind of cherry is

but each having roses and water, the white musk rose, and myrtles, and they are right pleasing;" though already, the Italian observes, "you see many houses ruined and gardens abandoned," for the Moriscoes are dwindling, as he notes elsewhere. This wide scattered region had a larger population than the city which it fed.

Further out in the swelling Vega, where overnight arose S. Fé, the city of the Holy Faith, and between the towns of Lorca and Antequera, it glowed ruddy and blue, waved green and silver, for another harvesting. All the plain would be, between one hour and the next, as one comes to

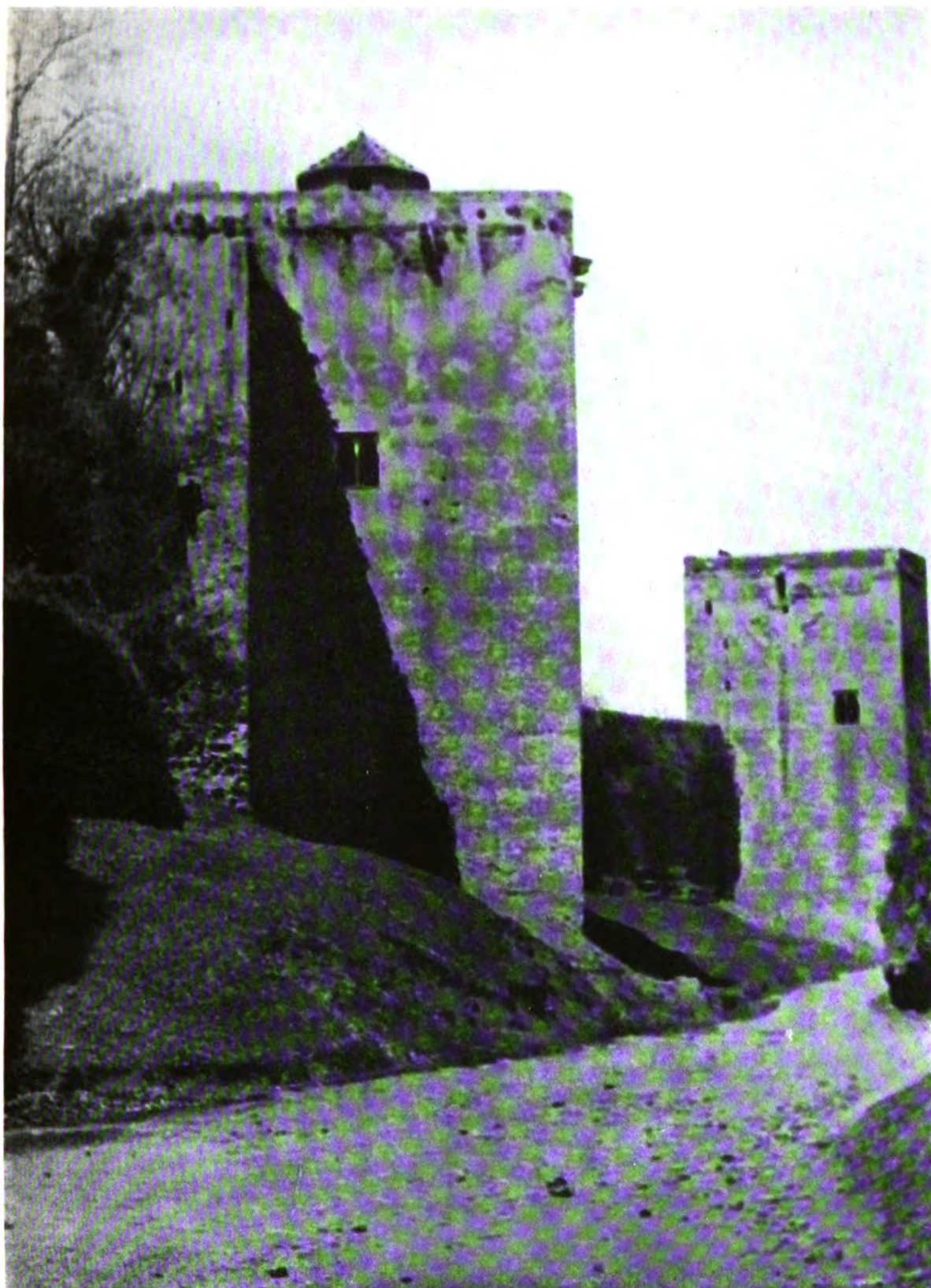


GRANADA

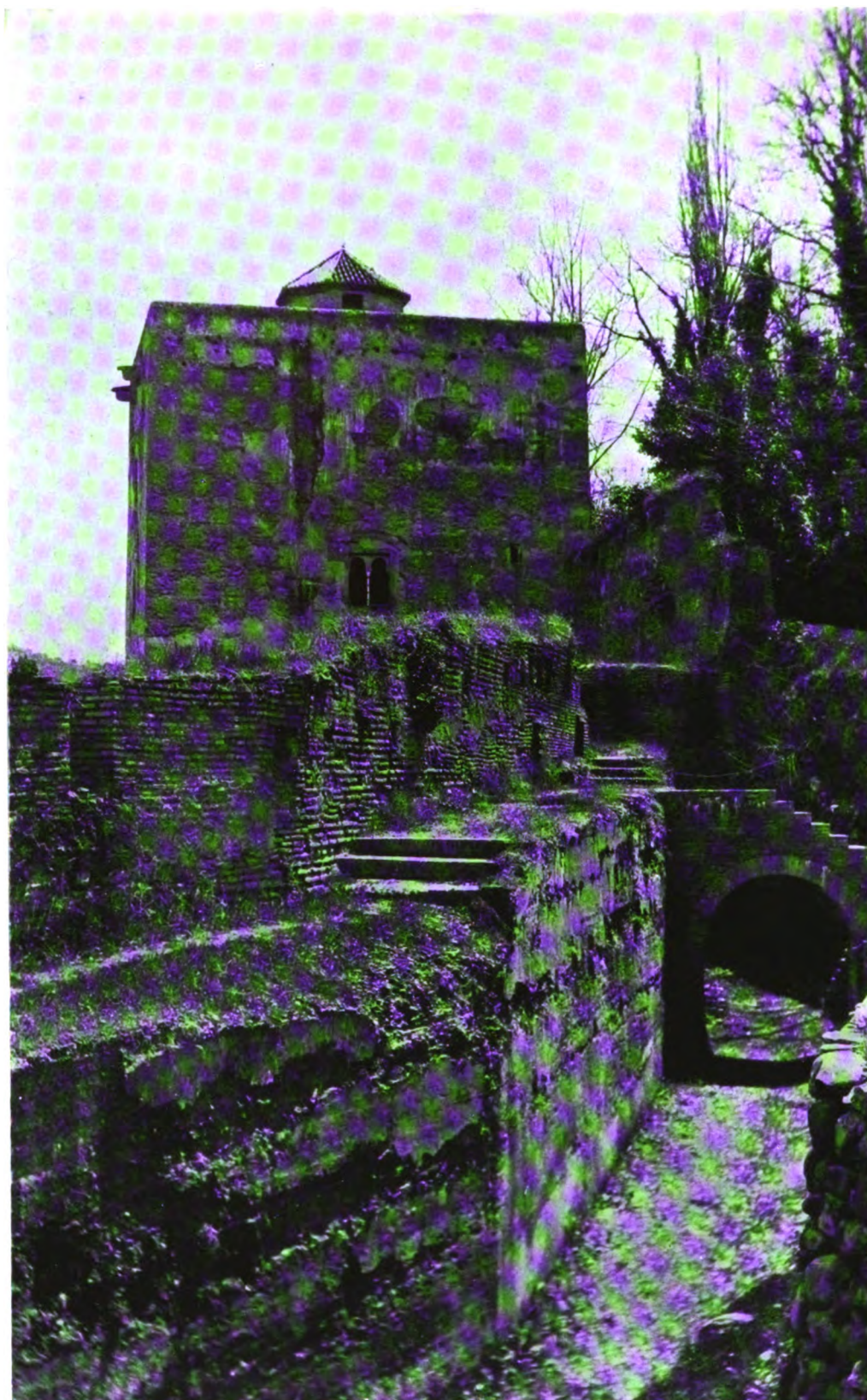
the finest in the world." And then the Venetian, who, like Petrarch before him, was an impassioned amateur of gardening, and never began a letter to his friend Ramusio without a question or a sigh for his own little place on the island of Murano, passes to the pomegranates, and the grapes, of which there is a special seedless kind, and the olive trees "so thick they are like a live-oak grove." And still the olive trees are ancient and immense.

The traveller crossing by railway the dust-bitten, wind-racked plain, will sigh as he compares it with this memorial, recollecting, however, that all that sweet garth and orchard may come again, and will; and again among the trees cabins shall be set thick, "small in truth,

see it in fancy, filled with horses and men, the delicate parti-coloured population of the elder tapestries, the fine folk and foplings of the latest miniatures. "*Alla en Granada la rica, instrumentos oi tocar,*" says the romance: "I heard the sounding of instruments;" how suddenly it comes. Throughout the fifteenth century, it would seem, on the so-called Frontier, the barrier between Arab and Visigothic lineage, at Granada, Jaen, Baeza, stories from the *chansons de gestes* were played out in men's lives as now-a-days in the Sicilian puppet-theatre. Out of such stuff is made the whole of that enchanting book which is called a "History of the Bands of Zegriz and Abencerrages, Moorish Knights of Granada, of the Civil Wars There Were Amongst

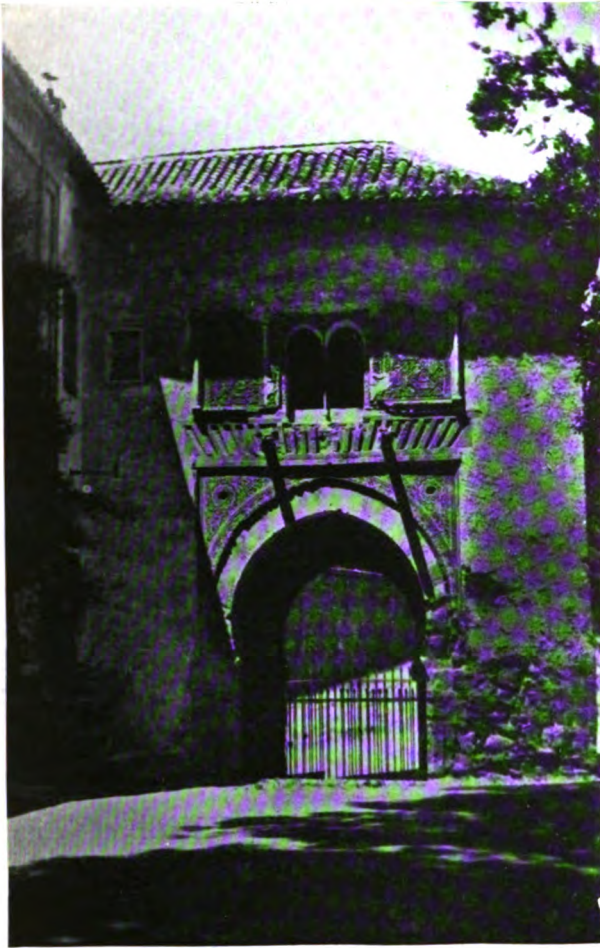


GRANADA.—OUTSIDE THE WALLS

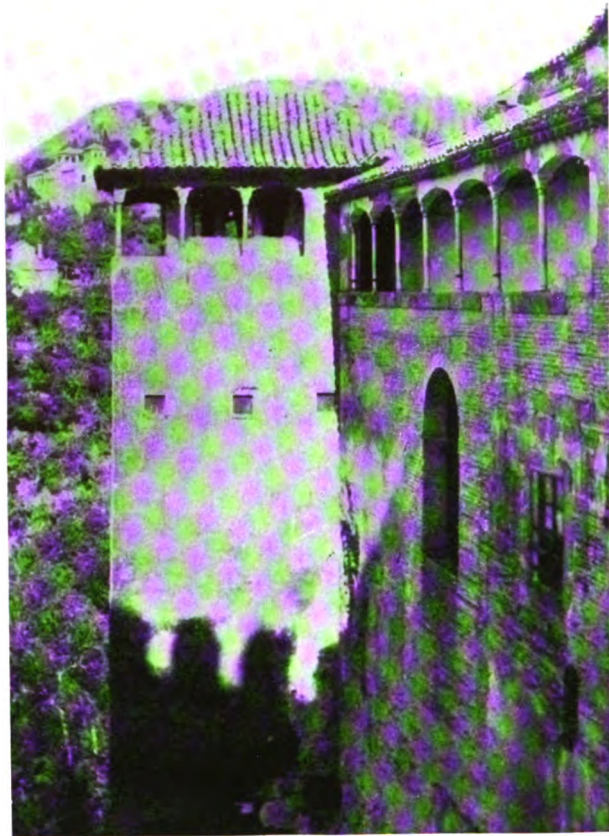


GRANADA.—THE OLD MOAT

GRANADA OF THE MOORS



GRANADA



GRANADA.—QUEEN'S DRESSING ROOM

Them, and the Particular Battles in the Plain between Moors and Christians till the King D. Ferdinand the Fifth Won It." Though it was only, after all, a tale, like those of Sinbad, and the Three Calendars, and Scheharzade herself, yet it was like enough to history to content those whose forebears had been actors. The little figures out there on the plain are like the thirteenth century windows of French cathedrals, like that at Chartres which depicts in ruby, azure and vert the adventures of Charlemagne and the battle of Roncesvaux; or like the little carved ivories at the Cluny, mirror-case and bodkin, or an inlaid chess-board or casket, with their recurrent lovers, their falcons and their coursers, their bench and fount in a garden-close, their Castle of Love.

The traveller who happens to be lodging up among the ruins and restorations of the Alhambra, looking abroad over silver-blue olives and

flushed and blossoming apple orchards, can see in fancy still the little figures moving among the trees, Fatima, Lindajara, Daraja and her Abencerrage, in the ample moonlight; can hear on the night air that blows up "*instrumentos tocar*;" the shrilling clarion and the furious trumpets, bridle chains that jingle and scimitars that clash, and under all, the drum beaten outside the palace. The traveller installed up there for a month or twain, if moderately friendly and not quite speechless, can strike up a good sort of acquaintance with old women and forest rangers, can follow the ancient moat around the mossy walls in prohibited parts, gaining fresh vistas and new aspects at every turn, can range the mountains, in the moonlit nights, with an old *garde-champetre*; and can watch the little goats at play in the roofless church which was the one-time grave of the great Isabella.

Like Siena, Granada lies on three hills and



GRANADA.—THE OLD MOAT

between them: the Albaicin, the Alcazaba, and the Alhambra. With this Navajero begins his description, like every one else: "The Alhambra is girt with walls, and is like a castle cut off from the city, which it dominates almost wholly; within the wall are many houses but what takes most space is a fair palace which was the Moorish kings,' which is, in truth, right fair, and wrought richly with fine marbles and other things, and the marbles are not in the walls, but in the pavement." From two of these lovely marbles, in truth, is the Hall of the Two Sisters named. The Venetian marvels at other things as well, windows made with a pretty device and most conveniently, "and excellent morisco work as well, in walls as in ceiling;" but anon his fancy is drawn away, from fount to fount, from court to court, into other deserted gardens, and in the midst of them ruined palaces. "A man may go out of the palace by a secret door, beyond the walls which compass it, and enter into a comely garden of another palace that lies farther up in the hill, which is called the Generalife—and the beauty of its pleasantries and its waters is the fairest I have seen in Spain." And under myrtles he watched rabbits playing, which was a pretty thing. "The water,

when you like, runs through all the palace and all its halls, in many of them a man is well off for the hours of sleep in summer." Further still he carries one: "In the time of the Moorish kings, if a man went on higher yet, he passed from the Generalife to other fair pleasantries of a palace which was called the Alesares, and thence to other gardens of another palace, that now is called S. Helen's; and on all the ways by which you went from one palace to another were myrtle hedges; now all is ruined, and you see only a few lengths of roadway, pools without water, and some scrubby myrtle that has sprouted up from the stumps." He goes on yet, lost among the dried-out pools, the ruined pleasantries, the roofless courts. "Still you see enough standing and know that the place was sweet, and perhaps a few wild myrtles and oranges linger."

In the Alhambra, however, the walls of the palace have been preserved with painful care; repairs have been going on since the time of Charles V, and by now it is hard to say, of any place or part, that a Moor has touched it. Plaster chiselled by the students of a school of art, coloured out of a German dye in blue and scarlet and gold, are a poor exchange for the in-

GRANADA OF THE MOORS

numerable stains and splendid dyes, however broken or dimmed, that Irving still could trace.

A large piece of the palace was torn down to make room for building what would, if finished, have been a noble palace for Charles V. Another large piece has been gnawed and nibbled away by time and private persons, for kitchen gardens and goat-yards, for lanes and habitations and squares and lodgings for tourists. But the centre of the whole still lies much as of old, grouped around the Court of Myrtles: on the left, a rabbit warren of rooms marked by charming signs of habitation long subsequent to the Moor, and a place of worship in the midst of these, and elsewhere, the so-called Old Mosque; on the right the Court of Lions, and the famous apartments opening therefrom. At the foot of it, fairly overhanging the river and commanding a wide sweep where it opens upon the Vega, looking down, in the spring, into rose-and-snow all a-toss, and ringing with sleepless nightingales, a great hall is reared; you lean in an embrasure and look from the window, and the world drops away below your feet; you turn within, and the dimmed splendour floods up to the far-off tarnished ceiling, and the imagination swirls like a swimmer in tides. Here was where the King received ambassadors, their minds bewitched and drowsy under the spell of the place, with its ever-changing colours on the porcelain, like a pigeon's breast; with its tireless interlaces that never come back or pause, its fleeting polygons that lulled the Arab's fancy like a dance, while it fed his mysticism like a drug.

The King did justice in quite another place, accessible on every hand, in a portico or range of little chambers beyond the Court of the Lions, where oval domes are painted with gold-leaf and ultramarine laid thick upon cracked leather, like bronze and lacquer work out of Japan, where water runs lispings, in small tiled channels, and leaps tinkling from a shivering pool at each arrest.

Other such fountains play in the chambers most dreamed of, most desired, the Hall of the Two Sisters, that of the Abencerrages, the Bower of Lindajara. Here under the deep domes and

semidomes and quarter-domes that span the corners, the so-called honeycomb vaulting multiplies and interlocks. It is all that travellers said of it; it is delicious, it is luxurious, it is incredible. There was an old-fashioned notion that Arab architecture derived from the tent, as Greek from the cabin and Gothic from the hut: well, standing here, one believes it. Under these multiplied mouldings, dazzling, receding, leading the eye back, and again withdrawing, and back again, the pull of gravitation ceases. At the most ecstatic, Gothic still plants a foot and rears a head; this hangs in suspension from above, like Mahomet's coffin.

To one accustomed to Italian palaces, the oddest thing is the small scale of it all. Of the chief rooms, few of them are large; the flanking rooms are no more than alcoves. In royal building of the fourteenth century over in Catalonia, luxurious and half exotic, at SS. Creus, the present writer felt the same: the palace chambers, in that burial-place of kings, are tiny, like an inlaid cabinet or a Chinese ivory toy. The trait is most likely oriental, indeed. Here, need it be said, you move in the Arabian Nights. Here you could never have any privacy, any silence, any secrets. And standing here you understand better both the loves and the hates of the harem: the latter promptly, when rival favourites should have, it would seem, fairly to dress in full view of one another, to set up their mirrors back to back in order to paint the lips and mark the eyebrows and dye the finger nails, feeling each other's warm arm, breathing each other's sweet breath. So, too, one understands how the young prince, the heir or the Queen Mother's child, growing up into adolescence in this sort of scented intimacy, before anyone dreamed of it should be fatally in love, sometimes with a younger wife, sometimes with a favourite slave, or a slave that the King had not yet so much as seen.

When the moonlight is strong and the nightingales are loud, Granada shakes out her old royalty and wraps it about her again. Of the odour of May, of the snow-cold mountain wind, of the sound of falling waters, the old spell still is woven. Through the dim sorrows of the romances, the Alhambra shines like a star.

The National Apprentice Schools of Design

IN an address delivered before the Joint Committee on National Apprentice Schools of Design, at a dinner of the Architectural League of New York, on January fifteenth last, the President of the League, Mr. H. Van Buren Magonigle, outlined the plans and objects of the schools it is now proposed to inaugurate. We quote from Mr. Magonigle's address as follows:

In facing and in dealing with the stern realities of the past four years, the artist has learned to exercise a common sense that will save him from some of the pitfalls that have swallowed up so many earnest attempts to introduce art into manufactures. The failure of the movement instituted by the group of which William Morris was a member may be partly ascribed to the failure to deal with conditions as they were. And among the mistakes they made was a demand for a return to the old slow methods of production by hand—a very noble but sadly impractical gesture. We have a saner point of view now, I think; we realize that we are men of our own century, not another; that conditions of life, of manufacture, and of distribution, are totally different from any in the world's previous history; that we reckon our population in millions, where, in Renaissance times, they were counted by thousands; that the least of these millions now demand and can command the possession of things which only the rich or the noble then possessed; that this means they must be produced in quantity and this means the use of machinery in many crafts. Part of our problem, therefore, is to see that the things our millions buy are beautiful things. . . .

It is the function and the privilege of the artist to help create these beautiful things. The single piece made by hand for the individual of taste and refinement will always have its market; we must create agencies for the training of the man or woman who makes these things; we must train the designers of the things made in quantity; and we must also train the designers and craftsmen who create or carry out the designs of others in another field which lies between these two extremes—in which, as in furniture, for example, the machine and the hand have an almost equal part in fashioning pieces in moderate quantities—neither on the scale of the vast yardage of the textile mills nor on that of the individual candlestick from the obscure studio.

Where are these designers and craftsmen to be trained? Are the present schools effective? We believe not. We are of the opinion that the majority of teachers are grossly incompetent, that the systems of instruction are amateurish and superficial; and the schools themselves are not interlocked with the crafts and trades. We do not believe that the professional pedagogue, with his cut and dried notions, is qualified to teach such subjects. He does not know them from the inside. The practising (and therefore practical) artist, and the craftsman who knows his job, are the proper teachers. We believe that it is better to have teaching done by the men who know, not so much about how to teach in the pedagogical sense, as how to *do* the thing they essay to teach. The student will learn more from the man who knows how to do it, than from the man

who has only learned how to talk about it. The greater the artist, the more skilful and enthusiastic the craftsman who greets the novice on the threshold of the school, the better chance the boy has of realizing the dignity of the craft he proposes to enter, the better chance that his interest may be aroused and, above all, sustained—for it is a lamentable fact that only a small proportion of boys who follow the manual crafts courses take them up as a means of livelihood.

It is in the light of these and other factors, that, since last winter, a committee of the Architectural League of New York, appointed with reference to their standing, knowledge, and experience in education and in the arts, has been working out a plan for National Apprentice Schools of Design. We are proud and glad to announce that the National Academy of Design and the American Institute of Architects have joined forces with us and have appointed distinguished representatives as members of a Joint Committee for the government of the schools. This assures the schools of such a powerful artistic backing as has never before been marshalled to the support of any school in this country; it means the support of the most distinguished, most representative bodies of practitioners of the arts to be found—architects of large experience in design, in affairs, in the organization and execution of great enterprises; painters of cultivation, vision, and skill in art and in life; sculptors with that faculty for seeing a thing in three dimensions, for translating an abstract vision into terms of the concrete, which makes them equally at home in the ideal and the practical world; craftsmen and designers for the crafts of distinguished ability, well balanced as such men are bound to be between theory and practice.

The name we have selected for the schools is expressive of their scope and character—National *Apprentice* Schools of Design. We wish to emphasize their national scope and particularly the character implied by the word "Apprentice." The name also indicates more than one school. As to "Design" we believe that word to be inclusively descriptive of every art there is.

We propose the establishment of unit schools on similar principles and of similar structure wherever there is a field for them, all under the government of a Joint Committee, composed, for the present, of representatives of the Manufacturers, the Architectural League, the National Academy of Design, and the American Institute of Architects. To each unit school a charter would be issued upon an agreement that the school should be conducted upon the principles laid down by the Joint Committee. Each unit school would have its own director; a lecturer; and might have one or many classes, each with its own instructor. If a number of such units were established in the same city they might or might not have the same lecturer on, and teacher of, the theory of design, historic ornament, the history of craftsmanship, and the like; or the lecturer and the director may be one person. The director of the unit or the lecturer may or may not be a craftsman—*the instructors must be, and be actively engaged in their craft.*

THE NATIONAL APPRENTICE SCHOOLS OF DESIGN

We have determined upon three basic principles of instruction:

1. The simultaneous instruction of the student in craftsmanship and in design.

2. That the crafts shall be taught only by actual practitioners of the crafts.

3. That design must be based upon historic precedent and not merely on suggestions from nature, using nature as a freshening influence but not as an original source of inspiration.

We wish to accomplish two purposes in one: To train designers who know intimately, by actual work in them, the technical processes of the crafts for which they are designers and to train competent craftsmen who can make their own designs, not merely execute the designs of others. The curse of America is superficiality; the curse of the schools is the impractical methods of teaching; the curse and the blight on all the crafts is that the designer knows little or nothing of the nature of the material in which the design is to be executed, its possibilities and its limitations, nor the technical processes involved, nor the tools by which it is given its special character. No craft can be developed from the outside—it must grow from within; and, therefore, we also wish to see craftsmen developed who will themselves make a rough drawing as a general guide and then work out the details at the forge or on the bench.

At the beginning, there will be evening classes only. As soon as possible, however, there should be both day and night classes. In the meantime, such students who wish may work in the daytime also. Instruction will be free but there will be a small matriculation fee per season.

We believe our general principles to be sound, but, we regard them as tentative and subject to modification upon test. We believe that upon every ground it is the part of wisdom to start on a modest scale and grow. In casting about for the best crafts with which to start we selected two—wrought iron, and textile designing and printing—for several reasons; we are able to secure the

highest class of talent for instructors, the equipment is not excessively expensive, the crafts are attractive to students and promise them good wages, and there is a demand for more and better craftsmen and designers in them. Mr. Samuel Yellin, of Philadelphia, has enthusiastically agreed to teach the class in wrought iron. We had hoped to secure the services of Mr. Harry Wearne in the textile class, but he is procuring us a substitute; our desire is, of course, that this class may cover the whole field ultimately—to weave, to punch Jacquard cards, to engrave rollers; to supply the trades with designers or craftsmen according to the demand. We are advised, on unimpeachable authority, that instruction in block printing is an excellent preparation for textile designers and an excellent way to prove the designer's work. But classes in other trades should be established at the earliest possible moment—in furniture, in tapestry weaving, in jewelry design and execution, in any craft in which a demand may exist. We may safely leave modelling and carving, for the time being, to the many classes in these now existing.

The Director of the first unit to be established will probably be Mr. Leon V. Solon, the son of the great potter, who was at the head of the Liverpool School of Art for some years.

The Lecturer will be Mr. C. Howard Walker, of Boston, a practising architect, for years connected with the Boston Museum School, the best man, bar none, we could possibly have secured.

The National Academy of Design provides commodious and well lighted quarters in their school building at One Hundred and Ninth Street.

For a student body we may draw on the Academy Schools and on those of Cooper Union perhaps, but we should prefer above all to recruit them direct from the crafts, taking individuals with some considerable knowledge either of design or of craftsmanship and carrying them further; in fact, for the first year, we consider the latter procedure very important. We must at all times, of course, take the labor demand and the unions into account.

Report of the Milwaukee Housing Commission

A commission composed of eleven members and of which Wm. H. Schuchardt was chairman, was appointed by the mayor of Milwaukee to investigate housing conditions, to formulate a policy aiming to correct such housing evils as were found to exist and to suggest methods whereby the growth of such evils might be checked. The commission was divided into two groups, one to find ways and means to bring about immediate relief, the other to study the best methods pursued here and abroad, and to offer a plan of procedure whereby all elements of the social structure might be housed properly and economically in adequate environments. The second group of this commission has recently published an admirable report which is herewith quoted at length:

"In approaching the housing problem in its broader aspect, we must not fail to appreciate the gradual change in the concept of government, which has been manifested

so conspicuously in England and on the continent during the last decade or two and to some degree in this country. Legislation relating to social amelioration, to transportation, to land improvement and development, and to public health has expanded the functions of government far beyond the older concepts of government (which concerned themselves largely with restrictive legislation), and has more fully organized nations to achieve prosperity and stability because it has put the welfare of the whole above the welfare of groups or individuals. Without the acceptance of this newer view of the functions of government, housing reform is not possible of accomplishment.

"The solution of the housing problem involves:

"(a) The elimination of speculative land values in some residential districts.

"(b) Zoning of the city to safeguard all residential districts.

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"(c) Economical and adequate planning of streets, transportation, sewage disposal, water supply, lighting, planting of trees, etc.

"(d) Elimination of waste in construction of homes.

"(e) Acquiring for wage earners the benefits of ownership without interfering with labor mobility.

"(f) Legislation aiming to stimulate the erection of wage earners' homes.

"(g) Public instruction as to the possibilities of housing betterment.

(a) The Elimination of Speculative Land Value

"The unearned increment of land value is held to be one of the chief causes of city slums and its control by the government seems to be, among others, a logical and necessary expedient to check physical and social deterioration incident to improper housing. Increasing values of land gradually restrict the size and quality of homes to a level inconsistent with the higher ideals of democracy and, therefore, private housing enterprises have not more than set an example which speculative builders cannot afford to follow. Today speculative building methods are almost exclusively resorted to for providing wage earners' homes and the chief evidence of the failure of such procedure lies in the fact that either housing evils exist in almost every community or are imminent. Uncontrolled speculation in this field is so closely akin to exploitation that to favor its continuation is to propose that workingmen may, with propriety, be exploited.

"Experiments in Europe seem to indicate that the most effective method employed to eliminate the burden of speculative land values is that of encouraging municipal ownership of large tracts of land which may be leased to and eventually purchased by properly constituted co-partnership home building societies. In the main, the various schemes adopted aim to extend to home seekers the credit of the government without imposing additional burdens on taxpayers, for to be of value to the community housing projects must be self-supporting. It is reasonable to assume that similar methods would assure to industrial workers in this state the benefits accruing to European workers and your commission recommends that such legislation be enacted as may be necessary to accomplish the desired results. The Commonwealth of Massachusetts has taken an initial step in this direction and it seems proper that Wisconsin should do likewise.

(b) Zoning of Districts for Residential Purposes

"The zoning of the city as to determination of use of land should be expedited by the Board of Public Land Commissioners.

(c) Economical and Adequate Planning of Streets, Etc.

"The powers of the Board of Public Land Commissioners should be extended to enable it to properly plan for outlying districts the layout of streets, grades, recreation grounds, transportation, etc., consistent with a general city plan. The very considerable waste of money due to private platting of land is all charged to property owners or tenants and militates against low rents.

"In medieval times the city walls necessitated excessive crowding of those who found protection behind them. Speculative land values and poor transportation facilities have, as it were, become the city walls of today, except in so far that they offer no protection. To countenance inadequate transportation from industrial districts to residential districts is to accept concentration in tenements and even slums as inevitable. And a system of transportation which, in a large city does not permit of rapid transit service to the outskirts cannot be deemed as adequate. Cheap land, pleasant homes in adequate surroundings are not available to wage earners when several hours per day must be spent in travel and when the fare is excessive. Your commission suggests that the Railroad Commission exert its influence with transportation companies to the end that plans be now prepared for rapid transit service to the surrounding cities and villages and to future residential districts.

(d) Elimination of Waste in Construction

"The building ordinances of Milwaukee should be carefully scrutinized as to requirements which may be extravagant in wage earners' homes. Your commission recommends that the Wisconsin Chapter, American Institute of Architects, and the Milwaukee Builders' Club be invited to report on possible changes in the building ordinances which may lessen the cost of building without lowering standards of construction.

"The advantages to be gained by collective building should accrue to the occupants and not to building speculators. The unit cost can be materially cut by erecting groups of houses under one contract, but the saving does not benefit the wage earner unless he is a stockholder of the building association or company.

(e) Acquiring for Wage Earners the Benefits of Ownership Without Interfering with Labor Mobility

"Americans have long harbored the idea that ownership of his home makes a man a better citizen. This is a misconception unless the benefits of such ownership outweigh its burdens. It must be borne in mind that ownership with most wage earners means the carrying of a mortgage, with the constant fear of foreclosure. It also means a very restricted area in which employment may be sought.

"Co-partnership tenants societies, as organized in Europe, grant to the tenants practically all of the benefits of individual ownership without the usually accompanying burdens. Sixty cooperative societies in England, and more in Belgium and Germany, have placed the method beyond the experimental stage and its adoption in this country seems advisable. In a co-partnership society the occupant of a home neither buys nor rents in the usual meaning of those terms. He acquires the value of a home without curtailing his mobility, as his investment in the society's stocks, if not always transferable without loss, will at least net him as much income as any safe security. His savings are not lost should he find it expedient to remove to another locality. The interests of tenant and investor are identical. No member lays claim to ownership in one house; he lays claim to part ownership in the whole estate.

REPORT OF THE MILWAUKEE HOUSING COMMISSION

(f) Legislation Aiming to Stimulate the Erection of Wage Earners' Homes

"Speculative building methods have failed in Europe and in this country to provide wage earners' homes of a type commensurate with the cost involved. Under this system it is quite impossible to build wholesome dwellings for low-paid workers. It, therefore, seems to be a duty of the state to devise methods whereby the new spirit of common responsibility for the community welfare, which is true democracy, may provide a better means of safeguarding the homes of the people against bad conditions than a category of legal restrictions. Constructive legislation stimulating the erection of wholesome homes for wage earners through state or municipal loans is no more class

legislation than is legislation establishing schools, hospitals or public parks. It should aim to remove the objectionable features of present methods and make it possible for all people in Wisconsin to enjoy those environments which make for wholesome, contented lives. Progress in this direction is being made elsewhere. It should be possible of accomplishment in this state.

(g) Public Instruction as to the Possibilities of Housing Betterment

"Housing reform movements cannot be successful without a clear understanding and cooperation on the part of the public, and your commission recommends that assembly halls in public schools be utilized for the purpose of spreading the necessary information."

Notes by the Wayside

EXQUISITE CRAFTSMANSHIP is not as common these days as it should be. It is usual to turn things out by the mile and the million, and, of course, such quantity production, and craftsmanship showing love of labor, do not go hand in hand. So it is a rare delight to encounter such a book as Frederic W. Goudy's "The Alphabet." The letterer and the compositor will be doubly interested in the book, but as great a thrill will come to lovers of the beautiful and especially to lovers of beautiful books. "The Alphabet" is valuable reading, but as this is not a review but a tribute to good craftsmanship, this reference to the text must suffice. For lovers of really good typography and good honest workmanship, here is a book whose pages sparkle with the brilliancy of a grand old manuscript. There is the loving hand of the fine craftsman in every letter. Printed on fine paper, every page is a treat. The types used were designed by Mr. Goudy and set by hand by Mrs. Goudy; the printing is just what good printing ought to be. The words are legible while good to look at, the spacing is correct and true, the color uniform. Those who are losing faith in the craftsmanship of the day should see and own this book as a tonic for their weakening faith. Let us hope that Mr. and Mrs. Goudy will give us more and more of their work. This world needs it.

QUITE RECENTLY two colossal hotels were opened in New York City. Of their tremendous size and ingenious appointments, nothing need be said here. We are accustomed to such things in America and especially in our large cities. But there are two things about these buildings that are both significant and hopeful. When we finally emerged from the architectural horrors of the Victorian age, which horrors were reflected in our hotel buildings perhaps more than in anything else, we went through a classic period when these styles were little understood. Then we came into a period of better understood design, but with this better understanding came an extravagant riot of detail, high color, gilding and imitation gilding, and scagliola of all colors. The lobbies and public rooms of our hotels became the least restful and least homelike places in our cities. Blank wall spaces and harmonious color schemes

seemed to be tabooed. Gradually this was improved, and a few years ago, several notable hotels were built in the Adam style, and, though still elaborate and extravagant, were refined and dignified—they really bore the atmosphere of a *home* for travellers. Luxury and display were still evident, however. In these two latest hotels, another step in the right direction has been taken. They are simple, attractive, quiet in color, and there is no ostentatious, lavish display. But the most unusual thing is that there is evidence everywhere of restraint in spending money for frills and furbelows, evidence of an attempt to pay only for the attainment of decent, wholesome dignity. This means, of course, that the patrons' dollars will go more toward buying service and less toward paying interest on unnecessary and uncalled-for investment. Comfortable, clean, and aesthetically pleasing environment with the best of service, all at a reasonable price, is what a hotel should offer. Making the patron pay for lavish and useless display seems to be becoming less fashionable. This is probably one of the reactions due to the war—our whole lives seem destined to become more simple, more wholesome, and more reasonable.

IT IS NOT DIFFICULT for me to understand how a great painting, a great piece of sculpture, or a great work of architecture may be conceived. It is not difficult to understand how the designer of these can visualize a more or less distinct image of what he wishes to obtain and then work toward that image, gradually building up, modifying and doing over until the result at least approaches the prevision. But how is a great piece of music conceived? I cannot comprehend this. When I hear such a masterpiece as Tschai-kovsky's Fifth Symphony, it is impossible for me to understand how the human mind is capable of preconceiving even the faintest outline of such a composition. How can a thing like that be thought out? It seems like something supernatural, like an inspiration, not something which can be planned and thought out beforehand. Perhaps my slight knowledge of the first arts and my ignorance of music may account for the difference in understanding, but it is bewildering.

Book Reviews

Cottage Designs. Housing of the Working Classes in England and Wales. Royal Institute of British Architects, 9 Conduit Street, London, W. Price 5 shillings, net.

Readers of the Journal will doubtless remember that in the number for July, 1918, were published a number of the premiated designs submitted in the competition for workingmen's houses held under the auspices of the Royal Institute of British Architects. Both the form of competition and the designs were interesting. The country, for the purposes of the competition, was divided into six districts or areas, and four classes of houses, varying in accommodations and cost, were provided for each district. The premiated designs, including a summary of the program and other data of the competition, comprise the subject matter of this interesting book.

Decorative Textiles. By George Leland Hunter. J. B. Lippincott Company, Philadelphia and London; The Dean-Hicks Company, Grand Rapids. 1918. Limited edition printed from type and type distributed. 580 illustrations; 27 plates in color. \$15.

One never is able really to enjoy the books one is asked to review; others we may approach in a carefree spirit without the inevitable preoccupations of the conscientious reviewer—the realization that here may be a work into which a man has put much of himself, burnt the midnight oil, fertilized with his sweat and sent out into the world with a tremulous hope, a shy pride—the anxiety to do strict justice, to avoid equally the flippant and the ponderous tone, neither to break a butterfly upon the wheel nor to whip Leviathan with a posy—to avoid, above all, the inexcusable fault of conveying the impression that the reviewer is a vastly more knowing fellow than the author—these considerations interpose themselves and affect one's whole mental attitude—which should be simple and one's mind "a large clean vessel" held out to receive the outpourings of the author's spirit; in every book it is the spirit of the author we hope to find; it is the spirit of the author that shall determine whether the book will be quick with life now and always or merely be so much paper, so much ink, so much tedium to add to the sum of the world's *ennui*. This is true whether the subject is seen athwart a temperament or whether the temperament is so steeped in the spirit of the subject that they become one to the reader—and equally true when that temperament or that spirit seems to be absent.

The volume before us was heralded with considerable pomp of specimen pages and illustrations. It is an admirable piece of typography—a handsome type page with fine margins—the same calendered paper for letterpress and illustrations—the halftone illustrations excellent, the colored plates not so successful, of imperfect register in some instances and slightly muddy in tone—not to be compared with the reproductions of textiles in "*Etoffes Japonnaises*." It is, with 580 illustrations, copiously and well illustrated. The system of numbering the plates so that, instead of being consecutive throughout the book,

each chapter has its own series, has no special advantage, since the plates pertinent to each chapter were segregated anyway, and has the disadvantage in cross reference that the reference is made to "Plate XXI, Chapter VI" and forces first a reference to the index to find the page upon which the chapter begins. "Plate XXI, facing page 160" would be much simpler. If makers of books would but remember the reader! There is to offset this a fine index and a bibliography.

The scope of the book includes damasks, brocades, and velvets; laces; embroideries, carpets, and rugs; tapestries; chintzes and cretonnes; gimps and trimmings; and, by a slight sophistry, wallpapers and leathers. We learn from the Editor's note that the volume consists in most part of articles published in *Good Furniture* during the years 1915, 1916, 1917, and 1918—also that it is to be "the first in a series of authoritative books on the modernized house-furnishing arts." Just here one may venture the suggestion that bravery of type and format does not make a book authoritative; it is conceivable that an authoritative book may be made by the assemblage of a series of essays or articles—but each essay must be in itself authoritative, and I regret to say that this claim for the book breaks down under this test. After a very careful reading, the most vivid impression is of a collection of articles written for a very high-class trade periodical, with the trade-note apparent almost throughout; it is evident that the articles were intended primarily for the perusal of the trade and the salesmen in the trade; they show evidences of having been written in part around the illustrations; they convey a certain amount of the sort of information known as popular and which is to be found in the books referred to in the bibliography; but for an authoritative presentation of the subjects treated of, one would better look elsewhere. They take at once too much and too little for granted; a certain measure of cultivation on the reader's part might be assumed without the pains to translate for him foreign words generally well known; and, on the other hand, there are long descriptions of various kinds of weaves, not only without any illustrations to make the process of producing them clear, but without even having first defined such fundamental technical terms, for example, as warp and weft—terms easily confused by the general reader and a knowledge of which it would not be impolite not to assume.

As a running accompaniment to the illustrations, as a brief summary of the major characteristics of the several weaves and textiles, it does very well. It is upon the illustrations that one looks back with most pleasure and profit.

But the capital defect of the book is that it gives us no glimpse of that which I began by saying one reads a book to find—the spirit of the author, the man beyond the book. Here is a collection of things upon which there is no personal impress to be felt—it is like furnished lodgings, with the lodger absent. A series of facts are presented, but that is not enough for an authoritative work. One may reasonably expect in a book for which so much is

BOOK REVIEWS

claimed that the author will use the facts as the text for a commentary more valuable than the facts, transfiguring them, making them luminous; such commentary is conspicuously absent, or, when present, is entirely commonplace and lacks the accent of authority. The Preface may be a guide to the personality we seek; I wonder if it is to be found in the following modest paragraph which sounds more like a publisher's advance notice than an author's preface. "This is the first comprehensive book on the subject to be published. Embodying, as it does, the results of many years of intimate acquaintance with weaves ancient and modern, it appeals equally to those who buy and use, and those who make and sell. Written in a simple, direct style, even when treating technical questions technically, it will be found invaluable not only to those who study and teach

in schools and colleges, but also to those who read for personal culture and domestic practice." Delicacy of approach is evidently a superfluous precaution here—here is no shy pride to startle, no tremulous hope to quench. The claim to a simple, direct style is a challenge to examination; it might be called an adverbial style, sentence after sentence beginning after this fashion: "Especially are the color effects noteworthy." "Always the silks that found their way to Rome brought high prices." "Very properly did Pliny classify Egyptian chintzes under painting." The cumulative effect of this affected inversion constantly repeated, so characteristic of the home furnishing magazine blurb, is very tiresome. It is not in such accents that the voice of authority usually makes itself audible.

H. VAN BUREN MAGONIGLE

News Notes

New Members Elected to the Institute

Birger Kvenild, 510 City Hall, Omaha, Neb. Nebraska Chapter.

James M. Nachtigall, 333 Paxton Block, Omaha, Neb. Nebraska Chapter.

Resolutions of the New York Chapter on a Permanent War Memorial

Just now, when so many communities are considering memorials to commemorate America's deeds in the world war, the wise resolutions of the New York Chapter, passed at a recent meeting, deserve the careful attention of chapters in other communities. Getting away from the assumption that the memorial *must as a matter of course* be architectural in character, and calling for a competition of suggestions and ideas as to the nature of the memorial, certainly bespeak broad-mindedness and proper public spirit for the proponents. The resolutions follow:

Be it Resolved, That the New York Chapter of the American Institute of Architects present to the Fine Arts Federation, for its earnest consideration, the following programme and plan of procedure:

That a committee be appointed to institute a preliminary competition of ideas or suggestions to be open to all citizens residing or maintaining an established place of business in Greater New York.

That their ideas or suggestions be presented in one of the following mediums:

In letter form;

In sketch form, a perspective and plan;

In plastic form, a model and plan.

A location or plot plan to be submitted if the idea be in the form of a structure.

As an essential part of this preliminary competition, a first prize, with possibly secondary prizes, should be awarded.

That the judgment of this competition of ideas be rendered, after public exhibition, by a jury composed of representative citizens. It is suggested that the jury of award be composed of fifteen members, three members appointed by each of such organizations as the New York Chamber of Commerce, the Merchants Association, The Fine Arts Federation, The Society of Arts and Letters, etc.

That the idea awarded the first prize in this preliminary competition be made the subject of a final competition.

That the winner of this final competition be awarded the commission to execute the memorial.

In conclusion, the New York Chapter feels that in this manner can best be obtained the opinion and the sentiment of the citizens of New York City as to the form of the memorial.

Post-War Committee on Architectural Practice

The work of the Post-War Committee is making substantial progress. Several chapters have already held or have planned to hold meetings especially for the discussion of the questions suggested by the Committee. The New York and Brooklyn Chapters held enthusiastic meetings recently, at which members of the Committee's Executive Council were present. At the New York Chapter meeting it was decided to arrange a regular program for future meetings, providing for discussion and debate, one by one, of the numerous questions to be studied by the Post-War Committee. In the next number of the Journal the Committee hopes to make an extended report of progress in many chapters, as well as of meetings of its own Executive Council.

Resolutions of the Illinois Chapter Regarding War Memorials

At a meeting of the Illinois Chapter, held January 14, the following resolutions were passed:

"WHEREAS, It is the sense of the Illinois Chapter of the American Institute of Architects, in regular meeting assembled, that the successful inauguration and consummation of a war memorial will call for the highest character of architectural service and advice; therefore be it

Resolved, That, in his appointment of the commission provided for in the resolution of Alderman Jos. O. Kostner and ratified by the City Council, the Mayor of the City of Chicago be and hereby is requested to include in the personnel of this commission five practising architects, of whom not less than three shall be members of the American Institute of Architects, and be it further

Resolved, That it is the sense of this meeting that the memorial should be located in conformity with the 'Plan of Chicago,' and, that its principal functions should be to keep green the memory of those in whose honor it is dedicated, to inspire our people with the spirit of patriotism and sacrifice and to be an everlasting and worthy addition to our heritage of beauty and art."

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS & SPECIFICATIONS, FIRE-PREVENTION, MATERIALS & METHODS, STRUCTURAL SERVICE

SERIAL 2—FLOORING

Objects

This and the following issue are devoted to a consideration of the various types of finished flooring and the materials commonly employed in their production. The discussion of this subject, like the discussions of other divisions of construction which will appear in subsequent issues, will be confined to the characteristics of the materials and products used, the standards regulating their production and use, and their proper uses. The aim is not to publish standard specifications, but rather to furnish architects and others, particularly the young in either years or experience, with the knowledge essential to the preparation of specifications and the selection of materials and methods through which desired results may be secured. By this means the Committee on Structural Service hopes to make such knowledge more generally available than it has been in the past, and, as a conse-

quence, to make possible the gradual abandonment of the "scissors and paste bottle" method of writing specifications, which has justified in large measure the widespread criticism of architects' specifications generally as being vague and impracticable.

Much of the material that will be published in this department must necessarily be compiled in close cooperation with manufacturers. Where standards have been adopted by professional, industrial, and government organizations, such standards will be incorporated. The Structural Service Department, through the work of the Committee on Structural Service will be consistently employed to effect a closer contact between the architectural profession and other professions, trades, and industries contributing either service or products to building construction.

CLASSIFICATION OF FLOORING

(For index of subjects previously treated, see Index on page 88 and consult the General Index in Structural Service Book, Vol. I)

Concrete	2A	Tile—Cork	3E
Wood	2B, 3B	Magnesium Oxichloride	3F
Tile—Clay and Ceramic	3C	Marble	3G
Tile—Composite, Elastic	3D	Mastic	3H

Floors, Concrete.

2A1 Nomenclature:

Cement. The term "cement" is used to describe and designate American Portland Cement complying with the standard specification for that material adopted by the A. S. T. M. on Sept. 1, 1916.

Aggregate is used to describe the inert particles of sand, rock, or pebbles, without regard to their size, mixed with cement and water to give mass rigidity and strength to the mixture when it has set.

Concrete is a mixture consisting principally of cement, aggregate, and water.

Concrete Floors are floors, including their wearing surfaces, which are composed of concrete, often erroneously referred to as "cement floors."

2A2 Aggregates:*

In selecting aggregates for an abrasion-resisting floor, the most advantageous sizes have been found to be from ¼-inch diameter down to that which is retained on a standard sieve having 30 meshes per linear inch. In this grading the coarser particles will predominate. Fine particles are usually broken crystals of rock minerals which will crush more readily than the perfect crystals of larger size, and their presence in quantity will result in wear and dusting of serious moment. Moreover, fine particles make coating of the aggregate with cement almost impossible, and therefore prevent a firm bedding of the aggregate in the mass.

Coarse aggregates should be hard material with the minimum of fine particles, and not exceeding in size that which will pass a ½-inch mesh screen. In better-class work, where good appearance is desirable, it is best to exclude aggregates exceeding ¼-inch in size.

Fine aggregates, commonly sand, should be hard, coarse, free from lime, clay, silt, loam and decayed organic matter and graded from ¼-inch down to that retained on a 30-mesh sieve.

For **Granite Aggregates**, prepared by the Webb Pink Granite Co., see page XV, Industrial Section.

2A

2A3 Cement: (See 2A1.)

For an account of the proceedings leading up to the adoption of this standard, see Structural Service Book, Vol. I, 1917, 1E7. Copies of Standard may be secured from the Portland Cement Association, 111 West Washington Street, Chicago, Ill.

2A4 Water:

The only requirements are that the water should be clear and fresh and free from vegetable matter and chemicals that would effect the hydration of the cement.

2A5 Theory of Mixes:*

Concrete is essentially an artificial stone, and the more nearly it approximates natural stone in quality the better will it resist stresses and abrasion. The production of a dustless concrete floor is therefore largely a matter of selecting proper materials and so manipulating them as to produce an artificial stone with natural stone qualities.

The resistance to abrasion of a concrete floor depends in large part on the quality and quantity of the aggregate and the density of the mix, and not on the cement matrix, which is the weakest and most variable element of any concrete combination.

The aim in mixing concrete for floors should be to use the largest possible proportion of aggregates, properly graded for size to secure density, which the unit of cement can take care of without loss of strength in the mass in order to assure a wearing surface composed largely of aggregates. The proportion of water plays an important part in securing and in the failure to secure these results.

The question of controlling water-content in the mix is most important. The mixture should be made as dry as practicable for satisfactory

STRUCTURAL SERVICE DEPARTMENT

manipulation. There are two fundamental objections to an excess of water or an excess of cement in the mix: First, either will result in the profuse production of hydrated lime—the product of the reaction between cement and water—which has no structural strength; second, excess water must occupy space in the wet mix, preventing proper compacting of the inert ingredients, upon which reliance is placed for a hard dustless wearing surface, and later, evaporating, leaves a porous mass.

The addition of hydrated lime to concrete floors, even in small quantities, should be avoided, inasmuch as one of the contributing causes to the dusting of concrete floors is hydrated lime liberated by chemical reaction between cement and water.

2A6 Proportioning of Ingredients:*

Sand alone may be used, or, when the floor is to be trucked over, a combination of sand and aggregate, provided they are properly graded from coarse to fine.

The ingredients should be proportioned to secure the densest possible mix. This will be found to result from the mixture of one part of cement to from two to three parts of sand, or sand and aggregate mixed.

The quantities of sand and aggregate and cement should be measured with great care—a bottomless box holding one cubic foot is best for the purpose.

The quantity of water should be kept as low as possible, consistent with reasonable facility in screening. Even the minimum quantity of water to make a screenable mix is excessive, and the excess ought to be extracted after placing. (See 2A7).

Thorough mixing is essential. Machine-mixing is best. If mixed by hand, the dry material should be turned over at least twice and turned over twice after wetting and before placing.

2A7 Placing:

The best result can be secured by placing the top dressing on the base while the latter is still soft, and in any case before the base has taken its final set. If this cannot be done, then the utmost precautions must be taken to secure a substantial bond between the two.

The top dressing should be lightly tamped, leveled and screened immediately after placing. Excess water should then be abstracted and the surface gently floated with a wooden float. No attempt should be made to produce a glazed surface, for such a surface, consisting of cement matrix, will dust off under traffic.

One method of removing excess water which has been found successful, is, after screening, to lay over each floor section a webbing such as burlap or cement sacking, and on top of this webbing to spread dry cement to an even depth. This covering should be allowed to remain in place for from ten to twenty minutes, and considerable water will be drawn, by capillarity, through the webbing and into the cement. The cement, upon removal, can be taken back to the mixer and used in the next batch. Almost immediately after the cement and webbing are removed, the surface can be floated.

A good floor may be produced by finishing the upper surface of the structural slab in the same way as recommended for floors consisting of a top dressing, provided suitable aggregates are used.

The not uncommon practice of dusting neat cement over the surface of a freshly laid concrete floor should be condemned. It is done to take up the excess water which floats to the surface under the screeding and first troweling, to permit of early finishing. For reasons already stated it results in a surface that has no resistance to abrasion. If this practice is to be permitted, the material used for dusting should be a dry mixture of cement and aggregate, precisely the same as that used in the floor itself.

Base. Many failures of concrete floors are directly due to the nature of the base or underbody upon which the topping or top dressing is placed. Frequently the base is a lean cinder concrete which has no strength and crumbles readily. There is no objection to the use of cinder aggregate if it is of hard clinker, screened to remove particles over 1½-inch in size and an excess of fine material. The base should be composed of concrete sufficiently rich to have strength to rigidly support the top dressing, which ought to be not more than 1 inch thick.

Curing. After the floor is set it should be kept moist for not less than forty-eight hours and protected from traffic.

A good method of keeping floors moist has been found to consist in covering the floor with building-paper over which there is placed a thin layer of sand which is kept wet. Canvas, frequently sprinkled, is another excellent covering for a fresh floor.

*Digest of opinions expressed in "Concrete Engineering Hand Book" by Hool & Johnson, and by Leonard C. Wason, W. P. Anderson, and others.

2A8 Treatments:

(Hardeners, dustproofers and waterproofers.)

Classes of Materials. Materials for these purposes may be divided into six classes, according to the method of application and function:

1. Liquid, penetrating, for which no chemical combination with the cement matrix is claimed.

2. Liquid, penetrating, which combines chemically with the free lime in the concrete.
3. Liquid film coatings.
4. Heated wax.
5. Incorporated additions, inert.
6. Incorporated additions for which a chemical combination with concrete is claimed.

Class 1. Generally consists of light hydrocarbon oil vehicle, with paraffine, gums, vegetable oils and pigments or inert fillers in solution and suspension. The pigment, gum, oil, or wax residue, after evaporation of the vehicle, acts as a void filler and binder, holding the concrete aggregates together.

Class 2. All of these are probably some form or combination of the so-called "fluats" (magnesium fluor silicate) or other acid base, which, it is claimed reacts with the free lime in the concrete, forming a neutral deposit, closing the pores and binding the aggregates together. Apparently the binding (hardening) effect of this neutral deposit is insufficient, for heavy vegetable oils are frequently added. If the neutralizing action of the acid is complete, the added vegetable oils would not be altered (saponified) by the lime.

Class 3. They differ in no fundamental characteristic from paints and varnishes. As they wear through, particularly at doors, the concrete is exposed, and presents an unsightly appearance. Some are applied in two coats, a filler and a finishing coat. Some manufacturers claim that their fillers seal the surface pores of the concrete by chemical combination with the lime content. Such fillers belong in Class 2.

Class 4. Usually paraffine. Penetration is secured by applying hot and reheating.

Classes 5 and 6. These two classes of materials are essentially and fundamentally identical. They are composed of finely ground iron or steel, sometimes combined with other minerals. Those belonging in Class 5 are, it is claimed, rendered inert by various special treatments. They function mechanically as metallic aggregates in the wearing surface. Those, which, on the basis of the manufacturers' claims, are placed in Class 6, are the same as those in Class 5. Some are treated and some are not. There are many contradictions in various claims made by different manufacturers of this class of products. It is difficult to understand how any chemical reaction can take place, even through oxidation, to which the void-filling function is in some cases attributed.

It has been found that the use of the so-called "hardeners" belonging to classes 5 and 6 results in making a poor concrete floor slightly more expensive than a first-class floor. A floor composed of properly selected and graded aggregates, properly proportioned with cement and water to secure maximum density, will not require the use of "hardeners" or "dustproofers." Concrete floors which are to be subjected to attack by acids or alkalis should be treated with a material of Class 1 or 2 or 4, selected, through test, to best meet the particular requirements.

The "dusting" or disintegration of concrete floors has in some cases been completely checked by grinding the surface in the same way that terrazzo floors are ground. The explanation is that when a concrete floor has been mixed with an excess of either water or cement—usually the former—the aggregate and cement matrix separate, the aggregate settling and leaving a wearing surface of matrix which has no resistance to abrasion. This surface is ground off, exposing the aggregate.

The use of Lapidolith, a liquid chemical hardener manufactured by L. Sonneborn Sons, Inc., is referred to on third cover of the Industrial Section.

2A9 Safety Devices and Appurtenances:

Concrete floors, those in which the ingredients are properly proportioned and which are properly placed, and sometimes those to which "hardeners" or "dustproofers" of classes 1, 2, 3, and 4 have been applied, will develop under traffic a smooth semi-gloss surface which is slippery and dangerous. This condition has created a demand for various safety or "non-slip" devices, materials, and appurtenances, especially on steps. The use of such devices in connection with concrete sidewalks has become an ordinary precaution against accident. They have also come into common use in concrete floors subjected to intensive foot-traffic.

The materials possessing the required characteristics to the highest degree, and, therefore, in most general use, are metallic lead and carbon crystals. The effectiveness of these two materials arises, in the case of lead, from its ductility and softness, and, in the case of crystalline carbon, from its extreme hardness. The surface of the former will not polish because it is easily abraded, while the latter resists abrasion to a very high degree and, therefore, presents a durable toothed or file-like surface.

Metallic lead is used, either as a filler in protective steel forms which overcome its ductility and prevent rapid abrasion, or in the shape of cast inserts which are set in the concrete surface before it is floated. Carbon crystals are used in several ways. They are cast in suitable shapes to be used as inserts or nosing tile; they are imbedded in the surface of metal plates; and they are granulated and used as an aggregate in the concrete surfaces.

The practical use of Alundum Tile, manufactured by Norton Company is shown on page IX of the Industrial Section.

Floors, Wood.

2B

2B1 Types of Construction:

The selection of species, grade, and dimensions for wood flooring are influenced by the character and type of the base to which the finished floor is fastened. It will be well, therefore, to discuss briefly the types of base construction as an explanatory introduction to the more detailed and specific consideration of materials for finished flooring.

With respect to type of base, wood floors may be divided into two classes, as follows:

- (a) Those laid on fireproof floor structures, and subdivided into:
 1. Laid on sleepers.
 2. Floating.
 3. Block.
- (b) Those laid on frame floor structures, and subdivided into:
 1. Laminated—Mill, slow burning.
 2. Ordinary frame.

(a) 1. *On Sleepers.* Sleepers, usually of yellow pine or spruce, 2 by 3 inches, laid with the 3-inch dimension horizontal, beveled both sides, and placed 16 inches on centers, are laid over the fireproof floor construction which is brought to the correct elevation with a concrete fill. The sleepers should be held in place by means of stamped No. 12 steel clips, secured to the upper flanges of the steel beams supporting the floor arches. If the floor construction is of reinforced concrete, the sleepers may be held in place with any one of a number of clips. One such, which has proved both satisfactory and economical, is a hairpin shaped clip of No. 10 or No. 12 galvanized wire, the bent end of which is inserted 2 or 3 inches into the soft concrete, about 2 to 3 feet on centers, using a plank as a guide. The ends of the clips projecting above the concrete surface are later bent over the sleeper and stapled.

Most city building-codes require that the spaces between sleepers be completely filled with concrete. The embedding of wood sleepers in wet concrete makes necessary some sort of treatment of the sleepers to prevent dry rot. Dipping the sleepers in creosote or other toxic fluids is not a sure preventative of dry rot. Impregnation with creosote oil is most effective, but expensive.

Either single or double floors are laid over sleepers. (See 2B, 2B.)

The use of deadening felt between the under and finished floors is advisable.

(a) 2. *Floating, Mill Type.* This type of floor consists of a base or under floor of 3 inches ($2\frac{3}{4}$ inches actual thickness) plank laid flat over the fireproof floor construction and a finished floor. The planks forming the under floor are not secured to the floor construction. They are laid either on a smooth, true, floated concrete surface or on a bed of dry sand not more than 1 inch thick. The planks are plain-edged, laid with $\frac{1}{4}$ inch open joints. The finished floor holds the under floor in place. This is a satisfactory floor upon which to mount light machine tools. Chases for conduit and pipe are provided by cutting or omitting plank. If there is danger of moisture from the masonry floor construction or processes carried on in the building reaching the under floor, the plank should be treated in the same manner as suggested for sleepers—(a) 1—to prevent dry rot.

For finished flooring, see 2B.

(a) 3. *Block.* Block flooring is of two distinct types: One, factory flooring, consists of wood paving-blocks impregnated with creosote or other heavy oil, laid either on a sand bed and grouted with Portland cement grout, or in a heavy coat of hot mastic, applied to the concrete surface, with the joints pointed with mastic. This floor is well adapted for machine shops where there is heavy work and traffic, but not where a resilient floor is required. The other type is, in appearance, a parquet floor. It is composed of $\frac{3}{4}$ or 1 $\frac{1}{4}$ -inch flooring in 12-inch lengths, milled with special tongue and groove, and key groove for the mastic in which they are laid. Such floors are generally laid in herringbone or other similar pattern.

(b) 1. *Laminated.* These floors are designed to be self-supporting on spans of several feet between heavy joists. They consist of an under floor of heavy plank, tongued and grooved or splined together, and of the thickness required by the span and loading. (See table in Manual of Standard Wood Construction published by the Yellow Pine Manufacturer's Association). A finished floor of suitable material is laid on the heavy under floor. (See 2B.)

(b) 2. *Ordinary Frame.* By this term is meant the flooring in ordinary frame structures where the joists are 16 inches to 2 feet on centers. These floors in cheaper buildings are frequently of a single thickness of flooring strips, laid directly on the floor joists. In all better-class work the floors are double, i. e., an under and finished floor. Between the under and finished floors it is customary, and good practice, to place a layer of "deadening" material, usually felt, either impregnated with a toxic oil or untreated. This use of a "deadening" felt not only insulates the floor to a certain extent against the transmission of sound, but also prevents the filtration of dust upward through the joints in the finished flooring.

For illustration of installation of *Hydrex-Saniflor*, made by the Hydrex Felt & Engineering Co., see page XXVIII Industrial Section.

2B2 Organization of Wood-producing Industry:

For a list of the organizations in the industry, and the standard gradings for the various species, see *Structural Service Book*, Vol. 1, 1917, Serial 5.

2B3 Materials:

Nomenclature. Too much emphasis cannot be laid on the importance of using in specification descriptions the terms and gradings adopted as standard by the various species associations. No others are recognized or understood by the dealers and producers. In spite of the great amount of effective educational work done by the National Lumber Manufacturer's Association and other organizations, the descriptive term "strictly clear" and other similar terms still frequently appear in architects' specifications. Such terms mean nothing and merely serve to make trouble through misinterpretation. The standard grading rules may be secured gratis from the species associations.

Species. The species of wood finding employment in floor structures are grouped below with respect to their characteristics, such as strength, density, resistance to the penetration of moisture and to rot, finishing, as well as to price, and the uses for which those characteristics make them peculiarly suitable:

Sleepers: Yellow pine, spruce, Douglas fir, and occasionally redwood. The natural resistance of redwood to dry rot seems to warrant its more general use for sleepers, especially where transportation charges do not put it out of competition with other woods more available.

Under floors, heavy plank for laminated mill floors and for "floating" floors: Yellow pine, North Carolina pine of the better grades, Douglas fir, and spruce.

Under floors, on sleepers and joists: Yellow pine, North Carolina pine, spruce, Douglas fir, and, in cheaper work, hemlock.

Finished floors: Yellow pine and North Carolina pine, both flat and edge grain; oak, red and white, quarter-sawed and plain; red and white birch, maple, red beech, spruce, Douglas fir. Mahogany, walnut, ebony and teak are also used for color strips in floor-borders. Teak is occasionally used in the form of $\frac{1}{4}$ inch sawed veneer on a softwood backing for an entire floor.

Note:—Space will not permit of reprinting the grading rules and standard dimensions for these materials. They may be secured, as before stated, from the various associations of manufacturers.

The discussion of wood flooring will be concluded in the next issue.

STRUCTURAL SERVICE DEPARTMENT

A Standard Construction Classification

Every well-ordered office ought to have a reference-file containing classified information of value in connection with the preparation of specifications, and for use in selecting materials and methods for securing desired results. The Structural Service Book for 1917 indicates what a wealth of material is available, much of it for the asking. The information catalogued therein, or much of it, should be in every progressive office, readily accessible for reference. Such material may be in an office but if it is not classified and filed it is of little or no use.

With a fairly comprehensive knowledge of the characteristics and uses of materials and methods such as may be gained by a free employment of the information which the Structural Service Book places at our disposal, construction may be reduced to an exact science, so far, at least, as established fact extends, or up to the border land of truth, beyond which lies the twilight zone of exploration, exploitation, experimentation, and mere hypothesis. No architect with a fully developed appreciation of service and of his obligation to serve well and faithfully his client and the public interests, cares to enter the twilight zone in the course of his practice. Yet he is constantly tempted to do so, and, not infrequently, due to his inability to discern the dividing-line between truth and fiction, he is misled and fails in his effort to secure the desired result. The safeguard against such failure is a classified file of fact which may be used as a basis of judgment and decision.

The Institute has been most successful in securing compliance with the standards in the matter of sizes for advertising, and this greatly facilitates filing for reference. The next important step, one which the architect himself must take, is to establish a standard construction classification and index for filing. If this were done, all advertising matter designed to reach the architect could be published with the file number on it, so the office boy might place it correctly in the file. Advertisers would not have to be urged to adopt this practice.

Some architects and many engineers have developed classifications and filing systems of their own. Some of these serve their purpose admirably, but there is no uniformity. Beyond an effort made four or five years ago by a joint conference of engineering societies, at which the Institute was represented, to arrive at a standard classification for "engineering knowledge," no attempt has been made to construct a classification for use in architects' offices.

The classification used in the Structural Service Book is satisfactory enough for indexing a bibliography of reference works, but it has no logical connection with the mental process incident to writing specifications, or the customary division of a building operation into trades or successive stages of construction. A classification for use in an architect's office ought to follow closely, it would seem, the major divisions and subdivisions of an orderly specification. It is that sort of a classification which the profession needs; and when there is one, the whole recording machinery of the architect's office may operate on it. The drawings may be numbered according to it, so they would find their places in the file under structural steel, masonry, plastering, or cabinet work, as the case might be. Correspondence would be numbered for file on the same system. Catalogues, reference works, old and current specifications, all would be filed under the same classification as drawings and correspondence.

The material published in the Structural Service Department ought to be indexed on the same classification for filing. The establishment of a standard classification is, indeed, of prime importance, an essential prerequisite to the convenient use of information which should be instantly accessible to every practicing architect. The Committee on Structural Service has undertaken the task of filling this need.

There must be some such classification in existence. There must be some in architects' offices that have been patiently and carefully developed to meet the peculiar needs of architectural practice. They may not be perfect, but capable of perfection. The easiest way to discover the existence of such things is to precipitate a discussion of them. And the simplest means of precipitating a discussion is to advance an idea. It matters little whether the idea is right or wrong, so long as it is put out, and the committee proposes to put this theory to test. We print below a suggested classification. If you don't like it, say so and tell us why.

NOTE.—The Committee has the extensions for all of the major divisions. Copies will be furnished on request.

Proposed Architect's Classified Index for Correspondence, Drawings, Catalogues and Specifications

January 15, 1919.

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No. 3

Shadows and Straws

ON THE THIRTIETH DAY OF APRIL, at Nashville, Tennessee, the American Institute of Architects will hold its fifty-second annual convention. In chronicling the approach of the event, one might easily surrender to temptation and characterize it with sweeping superlatives, indicative of the solemn moment in which we live and the profound nature of the problems which today are the anxiety, and even the terror, of the western world. In a general survey of the chaos in Europe, a gathering of architects in far-away Tennessee might well be lost to the eye, so inconsequential would it appear, if it appeared at all, and so remotely would such a gathering seem to be connected with the all-absorbing problem of remapping Europe—a problem into which the agents of greed and avarice have already sunk their inhuman claws, oblivious of the warning which flames from every corner of the countries, some one of which each member of this foul brood of vultures calls his own. Against them is arrayed a hardy group of pioneers. They have an idea which has been born out of the tragedy from which we have barely emerged. They call it the League of Nations. They believe it to offer a basis for a new international relationship. They put it forth, in all its crudeness, in the hope that a smitten world may at least recognize its worthiness as an idea and be willing to help in bringing about a practical fruition.

There are many who regret that the idea could not have been called a League of Peoples, and also that the first draft put forward bears so strong a resemblance to an Alliance of Might, but none of these considerations should be

allowed to dissuade every man or woman who possesses even a modicum of intelligence, from weighing the idea. If humanity at large shows signs of championing it, then the politicians and diplomats will endeavor to formulate its constitution to their own economic and political ends. Nothing else is to be expected from those gentry; only a determined popular will can prevent it and the consequences that will follow as surely and as swiftly as death follows the hemlock cup.

TO SAY THAT THE MOMENT is a solemn one is to put it all too lightly. The most giant forces of destruction ever organized by man have been turned loose upon humanity for four terrible years. The sum of their destruction is beyond human comprehension. As individuals we are utterly incapable of even a faint appreciation of the wreck and ruin which lie heavy on the nations of Europe. Not alone upon the battlefields does one need to wander in search of a clue. Their desert areas, pillaged, raped, and ravaged, are but the half of the story. To find and understand the other half, one must enter the homes and the hearts of the millions who have suffered their loss in heroic silence, and one must go farther, much farther, yet. One must enter the factories and workshops of the world and try to gain an understanding of the complete disorganization which here exists, the evidence of which is piling up before us with the inflexible regularity of the succeeding days. The world has been dealt a wound which still gapes at us in mocking ghastliness, and from which the blood still continues to pour in an unbroken stream. Starvation is stalking a vast area of Europe

with the sickle of Death whetted to the keenness of a razor-edge. By thousands it mows them down—the little children, the under-nourished mothers making their fearful sacrifice in vain, the weakened fathers, the wondering aged! To catch even a faint glimpse of this sum of human misery makes one sick at heart indeed, and sicker still as one contemplates the character of the political game everywhere being played by the old group of politicians and diplomats. To them any idea of international unity is abhorrent. The bombast and jingoism of party politics has poisoned their souls beyond redemption and mutilated their intelligence beyond restoration. If their machinations prevail, then civilization may well tremble for the result, the character of which will be revealed to any inquirer who can gain access to the preparations now being discussed in every war department of the world. When Destruction is again turned loose on mankind, it may well be doubted whether civilization can survive the new forms of those terrors through which it seems now to have passed with wounds not mortal.

WHAT CAUSES THESE THINGS? Is it men, lost to every sense of humanity, or is it a fearful system in which they are so enmeshed that escape is hopeless? Is there a possible method of reducing the problem to the terms of some simple human equation? Can there be formulated one single question—one hypothesis—understandable to every human being and capable of resolving the whole problem into something which even a child may grasp and understand? We are sick with the terminology of politics, with the endless phraseology of economics, with the maundering platitudes of the sociologists and the philanthropists, with the pitiful and pathetic hollowness of the pulpit. Before the problem of four years ago they all stood helpless like so many tottering and palsied seniles. Before the problem of today they stand just as helpless, just as impotent, just as weak, and instead of lending a stalwart shoulder to the great human cause which cries out in its agony, they merely seek aid for the trembling legs on which they have so long walked as objects of pity and contempt. "Save us," is their cry, and one by one each vested right (every vested right is in reality a vested wrong) takes up the cry and sends it along. The unity

accomplished in the face of a common enemy bent upon conquest is dissipated over night into a wild scramble for self-protection. And once again one asks, with a passionate appeal for light, What is the cause? Is it that men are lost to humanity, or is it that they are only lost in a maze of economic jungle, out of which they can find no issue?

MEN WILL ANSWER THIS QUESTION, each after his own fashion. Every man has his religion and his philosophy. He cannot live without them, even though he may be largely unconscious of their existence, but even the conscious possessors of a religion or a philosophy which they believe to be deep and powerful forces in their lives, may find it impossible to make any practical use of either. Christianity, which seems to most of us in the western world to be at once the beginning and the end of the spiritual life of man, stands denied by all of us. We cannot practise it except in degree. Not one of us has the courage to practise it to its ultimate finality. Not one of us knows how to so practise it that we shall have none other gods but God, and that we shall love our neighbor as ourselves, and yet on these two commandments hang all the law and the prophets. Christianity is, after all, only an idea. As a religion susceptible to use in everyday life, it is, so far, we complain, a complete failure. And yet, look where we will, search the heavens as we may, implore and beseech and pray for light as we must, no other answer is vouchsafed. The world will be saved by love, and not by hate. Christianity means the judge prostrate before the criminal, in abasement before his own human weaknesses. Christianity means that there is no punishment for men save that which they voluntarily bring upon themselves through the conscious knowledge of the wrong they have done, and that reparation must be through the conscious will to make it by suffering and through sacrifice. Christianity means the acceptance of Life as the one value by which anything can be measured. It is at once the scales that weigh and that which is weighed in the scales. It is Life as one and inseparable; it is the acceptance of mankind as divine through its own divinity, human through its own humanity, strong through its own strength, weak through its own frailty. "There is no value but Life."

SHADOWS AND STRAWS

THE FIFTY-SECOND CONVENTION of the American Institute of Architects can do nothing better than to take consideration of these simple truths, as it deliberates upon the various and complex problems which have now demanded a too long deferred attention. Architects' problems are not peculiar. They are not, as so many seem to think, questions which can be detached from the whole great problem, put under a microscope, subjected to physical and intellectual tests, and be answered with a simple prescription to be mixed and taken until cured. The same system which enmeshes the world does not exclude the building industry. The same unscalable wall before which others stand in mute surrender to economic laws, the denial of which means poverty and the pauper's field, rises to hedge them in. Our civilization has ordained that we must and shall live by the law of the selfish motive. Unselfish we may be, here and there, but the law is that we must live and fight for our own existence, no matter what other existences may go down in the struggle. The soldiers fall on the battlefields in the ecstasy of attack and defense, in that mortal combat which the world has sanctified with the title of "glorious," but the battlefields of peace claim their dead in silence, without glory, and without honor. Christianity has not failed! *It has not even been tried!* It has been left to pander to the emotions while its ministers let their tongues be withered by the same laws that wither us all. The law of profit reigns supreme over the law of brotherhood and love of neighbor. We are all caught in the same bramble; together we are lost in the same maze; the jungle of barter and sale is our prison; on the endless desert of selfishness lie the unseen skeletons of our spiritual lives. They have known their moments of ecstasy and escape, but only the divine few have in life, thrown off their manacles forever.

WHAT CONCLUSION SHALL WE REACH? Shall we try to "reform" men, or shall we try to work toward a system which will enable them to reform themselves? Shall we try to make better architects by education and by precept, or shall we try to bring about such changes in our economic system as will make it possible for those who build to demand both good architects and good architecture? Shall we try to devise new rules and regulations, new codes and

canons, or shall we become humble in the presence of our own humanity and learn to look with a little more tolerance upon those who live by practising a profession in accordance with principles which differ from our own? Shall we continue to salve our own consciences by proclaiming our sacred impeccability, or shall we look at ourselves as we are and admit our impotence to live wholly by the truth that we announce as peculiarly our own?

And, last of all, shall we approach our problem as the inseparable part and parcel of the sickening malady which is both the road to perpetual war and its legacy as well, or shall we study it as a mere indisposition which temporarily depletes our income? The success of our effort will depend upon our ability to visualize our own problem and to see it in its true perspective in relation to the life of the world.

From an economic point of view, human affairs at present rest upon two factors, both of which have an irresistible tendency to fatty degeneration through monopoly—the use of land and the use of money. Any study of any problem, be it the whole problem or the most infinite of its parts, which does not take cognizance of these two factors, is time wasted and effort thrown away. They are the prison wall, the unfathomable maze, the bewildering jungle, the waterless desert. The devil will point them out to us, if we will but walk to the top of the mountain with him, and the mockery of his laughter echoes wherever men meet and congregate, and, in solemn deliberation, refuse to begin at the beginning.

YET SLOWLY AND PAINFULLY man struggles on. Life is still an exciting adventure. Most men are not wilfully inhuman. More men would rather be honest than the reverse. Generosity springs like a flower whenever there is an appeal that can be seen or known or felt. The world is far from being barren of gentleness and kindness, from courage and devotion, from sacrifice and service. The struggle is sharp and the victories few. The way is easily lost, the road is often obscure, the dark is difficult to pierce. But until we have succeeded in creating an economic system under which men may practise Christianity, let us be tolerant of our fellow prisoners. Our shackles are alike, even though our offenses be different.

The architectural profession needs to be reorganized on new lines. As a body composed of a selected stratum or strata, it is without force and largely without a unified purpose. Rightly organized on the basis of tolerance and a will to make architecture a vital force in the life of the world, it would possess the power of developing a contribution of continually expanding service. As a disjointed profession, whether organized or unorganized, working under conditions which cause one part of the profession to scoff and jeer at the other part, it cancels its own effort even before the effort is made. The professional problem throughout the world partakes of this universal weakness, and is subject to the same fatal malady. Individuals are working alone; organizations are working alone; countries are working alone. It is all solitary and, for the most part, unrelated effort. There is no visible unity of purpose. No one organization helps another. Each plays its own little

drama apparently in complete ignorance of the fact that there are several other interesting theaters where the performance might be both useful and instructive. The time has come to throw away this passion for monachism. If the architectural profession is to become a force for good in the life of the world, it must develop its local organizations more fully, weld them into its larger organizations more completely, and then merge the whole into an international fraternity of purpose and thought and activity such as will compel, through the sheer force of meritorious contribution, the respect not only of peoples but of all those in authority. But that contribution, to be meritorious, must continually point the way toward a finer humanity, a more equal justice, a world neighborliness based on the law of live and let live. Nothing short of this will do. If this be the goal, the race is won even before the start is made.

The Competition for the Federal Buildings, 1792-1793

By FISKE KIMBALL and WELLS BENNETT

II

THE narrative of events in the competition for the federal buildings, so often written, still greatly needs to be summarized anew, in view of freshly discovered evidence which has an important bearing.

The first suggestion of holding a competition came from Jefferson, then Secretary of State, in a memorandum of September 8, 1791.¹ He was influenced doubtless by his knowledge of the practice of securing designs for public buildings by competition in France. His original "sketch or specimen of advertisement" of the Capitol competition, which accompanied the suggestion, and which has escaped previous searches, has now been found,² and shows that the official program for the Capitol as well as that for the President's House was essentially his work. The first draught, here quoted, reveals the tentative state of the plans for the new

capital city, which had not yet even received its name, but the draught already contained all the important provisions of the published version frequently reprinted.

"Plan of an Advertisement

A Premium

of 500. dollars, or a Medal of that value at the option of the party, will be given by the Commissioners of the federal buildings to the person who before the day of 179 shall produce to them the most approved plan for a Capitol to be erected in the chief city of the Fed. territory: the building to be of Brick, and to contain the following apartments, to wit:

a Conference room	} sufficient to accommodate 300 persons each	} these rooms to be of full elevation
a room for the Representatives		
a Lobby or Antichamber to the latter.		
a Senate room of 1200 square feet area.		
an Antichamber or Lobby to the last.		

12 rooms of 600 square feet area each, for committee rooms & clerk's offices, to be of half the elevation of the former. Drawings will be expected of the ground plats, elevations of each front, and sections through the building in such directions as may be necessary to explain the internal structure; and an estimate of the Cubic feet of brickwork composing the whole mass of the walls."

¹Library of Congress, "Washington Papers," Sparks Index Series, vol. 74, p. 409.

²Department of State, "District of Columbia Papers," vol. 6, p. 88. Cf. also the copy at p. 140.

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793

It was this very draught, we now see, which Commissioner Johnson sent back to the President and which was then once more, on March 6, 1792, sent to the Commissioners with some corrections.¹ These corrections, interlined by Jefferson in the draught, introduce the name of the city "Washington in the territory of Columbia," suggest July 20, 1792 as the time limit, and, besides providing that the Commissioners give the first prize for the best plan "if adopted by them," introduces a second prize of equal value otherwise. The Commissioners themselves made no further changes except to advance the final date to July 15 and to modify the amount of the prizes. These became, for the first prize, a lot in the city, with \$500 or a medal; and for the second prize, \$250 or a medal.

The program for the President's House was also sent to the Commissioners on March 6. The original draught² which has likewise hitherto eluded search, shows a suggestion from Washington to Jefferson which is interesting to note. Jefferson first wrote:

"A Premium

of 500 dollars, or medal of that value, at the option of the party will be given by the Commissioners of the federal buildings to the person who before the day of next shall produce to them the most approved plan of a President's house to be erected in the city of Washington and territory of Columbia. The destination of the building will point out to the Artist the number, size and distribution of the apartments. It will be a recommendation of any plan that the central part of it may be detached and erected for the present, with the appearance of a complete whole, and be capable of receiving the additional parts in future if they shall be wanting."

Washington wrote at the bottom:

"I see nothing wanting but to fill the blanks—and that I presume the Comrs will do—unless, after the words "destination of the building" is added "and situation of the ground" for I think particular situation wd require partr kind or shaped buildings."

This suggestion Jefferson incorporated before sending on his draught, to which he also added provisions for drawings and estimates as in the Capitol program. The final advertisement³ followed it with negligible changes.

Under these programs, designs for the Capitol

¹Department of State, "District of Columbia Papers," vol. 6, pt. 2.

²"Letters of the Commissioners," vol. 1, p. 74.

³Printed in Kimball: "Thomas Jefferson, Architect," pp. 154-155.

were received from Philip Hart and Abram Faw before June sixth,¹ from Samuel McIntire on July second,² from Stephen Hallet before July 11,³ and from Jacob Small, James Diamond, Samuel Dobie, Robert G. Lanphier, Charles Wintersmith, and Andrew Mayfield Carshore also at some time before the judgment by Washington and the Commissioners at Georgetown on July 16 and 17. Designs for the President's House were submitted before that time by James Hoban, Stephen Hallet,⁴ John Collins, Collen Williamson,⁵ Philip Hart, Andrew M. Carshore, Jacob Small, James Diamond, and, anonymously, Thomas Jefferson himself.⁶ Hoban's design for the President's House was awarded the first premium by the Commissioners; that of John Collins "appearing to be scientific and second in merit which had been laid before them, they directed the payment of \$150 to Mr. Collins as a token of their sense of the merits of his essay."⁷ Regarding the designs for the Capitol the Commissioners wrote Hallet the same day,⁸ "neither of them has met with entire approbation," although Lanphier's was considered, and Hallet's (A), which followed a suggestion of Jefferson, was most favored.⁹

The formal competition being over, the Commissioners, in their letter to Hallet just cited, invited him—as author of the design "approaching nearest to the leading ideas of the President and the Commissioners"—to come to Georgetown and study the matter further under their direction, with a liberal guarantee of expenses and the possibility that his design might be "improved into approbation." A design from Judge George Turner, apparently incomplete, which arrived the day after, was also favorably regarded,¹⁰ however, and Turner was asked to send "any additions you may have ready."¹¹ Revised designs by Hallet (A') and Turner, with

¹Office of Public Buildings and Grounds, "Letters Received by the Commissioners," p. 94, vol. 1.

²*Ib.*, p. 98.

³*Ib.*, p. 101.

⁴*Ib.*, *id.*

⁵*Ib.*, p. 116, vol. 2.

⁶Kimball: "Thomas Jefferson, Architect," pp. 154-156. The designs for which no reference is given above are either premiated designs, or ones, still preserved, the receipt of which is not specially mentioned in contemporary documents.

⁷Proceedings of the Commissioners, July 17, 1792, quoted by Bryan: "History of the National Capital," vol. 1, p. 195*n*.

⁸"Letters of the Commissioners," vol. 1, p. 104.

⁹Commissioners to Washington, July 19, 1792, "Letters of the Commissioners," vol. 1, p. 102.

¹⁰*Ib.*, *id.*

¹¹Commissioners to Turner, July 19, 1792, *Ib.*, p. 103.

a belated design from Leonard Harbaugh and a "first study" by Samuel Blodget, Jr., which had been received meanwhile, were considered at a second, informal judgment on August 27, but again "none appeared so complete on the whole as to fix a decided opinion."¹ Hallet was thereupon given "a sketch of the internal arrangements" which the Commissioners thought most happy,² and requested by them to apply himself "to the Disposition intimated in the notes furnished to you;"³ while Blodget was written giving further opportunity to submit "the plan you expect entering" and was sent a paper setting forth "the better matured ideas of the President and Commissioners."⁴ Blodget does not appear to have presented a revised design, and the new one by Hallet (C), submitted in October,⁵ which the Commissioners speak of as "drawn by our directions," proved satisfactory neither to them nor to himself. Nevertheless, the Commissioners wrote, "as everything he has exhibited, tho' not approved, has still exhibited more taste, and practical skill, than has appeared in any of the numerous ones with which we have been favored," he was employed to make still another design (D), receiving his directions from the President and Jefferson during a visit to Philadelphia.⁶ This design Hallet presented on a second trip to Philadelphia late in January, 1793.⁷

Meanwhile a new competitor had appeared in Dr. William Thornton. He had written from Tortola in the West Indies on July 12, 1792,⁸ stating that he had drawings ready and that he would bring them with him to America. Again, after his arrival, he wrote from Philadelphia, November 9,⁹ that he would forward his plans if there had yet been no decision. The Commissioners requested that he would forward his plan for the Capitol to them before December 1,¹⁰

¹Commissioners to Blodget, August 29, 1792, *Ib.*, p. 111.

²Commissioners to Jefferson, October 14, 1792, *Ib.*, p. 69.

³Commissioners to Hallet, September 1, 1792, *Ib.*, p. 114,

⁴*Ib.*, p. 111.

⁵Hallet to Jefferson, September 21, 1792. Department of State, "District of Columbia Papers," vol. 1.

⁶Commissioners to Jefferson, October 14, 1792, cited above.

⁷Washington to the Commissioners, January 31, 1793, frequently published. That Hallet went personally to Philadelphia to submit this is proved by the phrase, "que J'ai produit dernièrement au President en votre presence," in his letter to Jefferson, March 13, 1793 ("District of Columbia Papers," vol. 2)—an important point, so we shall see, which has been previously overlooked, which supersedes the statement in Bennett: "Stephen Hallet," *A. I. A. Journal*, vol. 4, p. 382.

⁸"Letters Received by the Commissioners," vol. 2, p. 112.

⁹*Ib.*, p. 156.

¹⁰Commissioners to Thornton, November 15, 1792, Library of Congress, "Thornton Papers," vol. 1, p. 135.

but as he did not do so they asked him to lodge it with Jefferson in Philadelphia,¹ so that on the presentation of Hallet's, the President could have "an opportunity of judging of their comparative merits."² In the meantime, however, we see that Thornton must have undertaken another set—perhaps with oral supplementary advice such as had been given to Blodget and Hallet in writing—for as lending color to this supposition, Washington speaks of it on January 31 as still unfinished.

Even in this state it so impressed the President and others that Washington then practically decided the matter in its favor. In his letter of that day to the Commissioners, after recognizing that Hallet's plans (D) "undoubtedly have a great deal of merit," he says the qualities of Thornton's design "will, I doubt not, give it a preference in your eyes as it has done in mine," and adds "I have therefore thought it better to give the Doctor time to finish his plan, and for this purpose to delay till your next meeting a final decision." Jefferson's letter of the day following, also, although saying, "a just respect for the right of approbation in the Commissioners will prevent any final decision in the President till the plan shall be laid before you and be approved by you," speaks of the "interval of apparent doubt," which "may be improved in settling the mind of poor Hallet."³

Appreciating that his design was not wholly satisfactory, but not realizing that the issue had already been decided, over the heads of the Commissioners, by Washington and Jefferson, Hallet, after his return to Georgetown prepared and submitted to the Commissioners one more design (E)—"conforme aux données resultantes de la conférence que la President m'a accordée sous vos auspices," but this time embodied in forms chosen by himself.⁴ The elevations and sections of this had not been produced when, early in March, Thornton arrived with his plan and a letter from Washington to the Commissioners reiterating that he had no doubt it would meet with their approbation.⁵ Although evidently they did not wholly share the President's enthusiasm for it, since they raised cer-

¹December 4, 1792. "Letters of the Commissioners," vol. 1, p. 125.

²Commissioners to Jefferson, *Ib.*, p. 127.

³Jefferson to Daniel Carroll, Library of Congress, "Jefferson Papers," Series 1, vol. 5, p. 22.

⁴Hallet to Jefferson, March 13, 1793, cited above.

⁵March 3, 1793, "Letters of the Commissioners," vol. 1, p. 117.

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tain objections in their reply, they concluded "on the whole it gains our preference."¹ To Hallet they wrote, "Our opinion has preferred Doctor Thornton's plan and we expect the President to confirm our choice." Regarding compensation they stated that "neither the Doctor or yours can demand the Prize under the Strict terms of our Advertisement, but . . . the End having been answered we shall give the reward of 500 Dollars and a Lot to Dr. Thornton. You certainly rank next, and because your application was excited by particular request we have resolved to place you on the same footing as near as may be, that is to allow a compensation for everything to this time, £100 being the value of a Lot and 500 Dollars."² Still in ignorance that Thornton's plan already had the President's approval, Hallet informed the Commissioners of his intention of completing the design (E) on which he was engaged, "so that when the President shall come to join you you may be able to reach a final judgment."³ At the same time he sent to Jefferson a description of this design to submit to the President, "asking him to suspend his judgment, if possible, until I have been able to place my work in a state that can be seen and understood."⁴ All this was naturally unavailing under the circumstances, however, and on April 5 the Commissioners notified Thornton: "The President has given his formal approbation of your plan."⁵

Thus came to an end the informal competition which had resulted more or less accidentally since the close of the formal one. The successive designs made by Hallet while he was tentatively engaged by the Commissioners, embodying various suggestions from the authorities, had been compared with the competitive designs of others who did not complete or submit them until after the date specified in the program. One of these latter had been preferred by the President and the Secretary of State to those of Hallet's which they had seen; the Commissioners had somewhat dubiously concurred in this preference, and a sum equal to the original first premium had been awarded to its author, Doctor Thornton. An equal sum had been paid to

¹March 11, 1793, *Ib.*, p. 165.

²March, 13, 1793, *Ib.*, p. 171.

³March 13, 1793, Department of State, "District of Columbia Papers," vol. 2.

⁴Letter of the same date, cited above.

⁵"Letters of the Commissioners," vol. 1, p. 177. The "Proceedings of the Commissioners" for April 2 report the receipt of Washington's approval.

Hallet to comprise both the amount of the second premium and a payment in compensation for his employment by the Commissioners.

In their conduct of the competition there can be no question that the public authorities were actuated by a sincere desire to act fairly to all parties, to the best of their understanding of such an unfamiliar matter. This appears especially in their dealings with Hallet, which involved nice questions of justice and tact. In summoning him to Georgetown to revise his first competitive design in the hope of its being approved, they stated, "at all events we shall liberally indemnify your expenses."¹ When they failed to approve his second design, yet asked him to continue his studies, they took pains to define their relations to him in writing. They stated their strong expectation of being able to form a lasting engagement, but their inability to do so with propriety until a design for the Capitol was officially fixed on. That they could scarcely do more, and that he could scarcely demand more under the circumstances, was recognized by Hallet himself. He writes, in his letter to Jefferson, March 13, 1793, "A stranger and almost unknown, I have no right to hope for confidence until time furnishes me the opportunity to justify it." In truth, although he had held high professional rank in France, he had neither the established reputation in America nor the means of bare livelihood which would have enabled him to require an assurance that he would receive the commission before he would continue his studies. That other men were also still allowed to submit designs in competition with his later ones was an inevitable outcome of the urgent need for securing some acceptable design as early as possible, and of the scarcity of designers at that time—now almost inconceivable to us—which threatened to leave the authorities wholly without resource if none of Hallet's designs should finally prove satisfactory. Hallet himself acknowledged that he had been honestly treated by the Commissioners, and only complained that the competition should be closed to the first design which was really his own.²

That it was so closed was hardly the fault of the Commissioners, for the final decision had really been taken out of their hands. The President and his advisers also are perhaps

¹July 17, 1792. "Letters of the Commissioners," vol. 1, p. 104.

²Letter of March 13, 1793 to Jefferson, already cited.

scarcely to be blamed for supposing, after Hallet had prepared four designs with the benefit of their advice, that they could expect little more from another effort on his part, and did not realize that he might make still better if left more free. Moreover they were again urged to haste by the long delay which had already ensued, and the positive necessity of getting the Capitol under way in order to establish confidence in the whole federal city project. That they were thus led to make their decision in favor of an unfinished design, which the Commissioners had not even seen, was a misfortune, however, quite irrespective of the merits or demerits of Thornton's original plan. The building of the Capitol was thereby burdened with a legacy of controversy, which has descended even to modern partisans of the various contestants.

Recognizing the force of circumstances which compelled the action of the authorities, and their uniform desire to act fairly according to the best principles of their own day, we may yet find interest in considering the competition also by modern professional standards. The program for the President's House left almost everything to the designers' judgment. The one for the Capitol, as the Commissioners themselves were led to recognize, "was drawn up without so full a consideration of the Room necessary as might have led the Ingenious to sufficiently specified objects"¹—it was not specific as to practical functions and relationships, particularly regarding the conference room—naturally enough, in view of the novelty of the whole problem of a republican legislative building. The programs did not undertake that the commission to supervise each building should be awarded to the author of the best design submitted, although the Commissioners wrote that, should "the Draftsman of one or both . . . be desirous of conducting the execution," they would wish to engage him, "if proper in other respects."² The advertisement did not even undertake that the prizes should be awarded unless designs were adopted, although they proved to be awarded even, in the case of the Capitol, after the formal competition had proved a failure. The number and scales of the drawings required were not

specified, and in fact many of the designs submitted were incomplete.

In the course of the competition also there were many things which we should today regard as highly irregular. Thus there was the submission of an anonymous design for the President's House by Jefferson, who had written the program and was consulted in the judgment, although he was not present at the final decision. This becomes explicable from his eagerness that some respectable academic design should be available, when one appreciates that the only designs laid before him and the President up to the eve of the judgment were those of Hart and Faw, of which Washington himself wrote, "if none more elegant than these should appear . . . the exhibition of architecture will be a very dull one indeed."¹ Jefferson also gave Hallet a suggestion for his competitive design for the Capitol, as we shall see, but no attempt was made to force the adoption of these inspired designs. A more serious matter was the opportunity, during the course of the informal competition, for the competitors to see each other's designs, giving rise to mutual charges of plagiarism which we shall have to discuss later.

In the main, however, the authorities, in spite of their inexperience, did conform tolerably well to the principles which govern good competitions today. In the case of the President's House they immediately awarded the prizes without favoritism, and engaged the winner to supervise the work. In the case of the Capitol, they selected the best designs from a competition to which all had been eligible, and gave their authors opportunity to submit modified studies on a revised program, impartially communicated. To the competitor whose first design was superior to the others, and from whom further successive re-studies were asked, they guaranteed and paid a suitable sum, in accordance with the uniform feeling, voiced by Washington, that he should be "liberally rewarded for the time and labors he has expended."² Thus although this first federal competition had the potentiality of abuses which later disgraced public competitions in this country, the integrity and tact of the authorities made it foreshadow in fact the best modern practice.

¹Commissioners to Blodget, August 29, 1792, already cited.

²Commissioners to Jefferson, April 14, 1792, Department of State, "District of Columbia Papers," vol. 1, p. 95.

¹Letter to David Stuart, July 9, 1792.

²Letter to the Commissioners, January 31, 1793.

(To be continued)



TOWN HALL

Osma

Soria, Osma and Cuenca

By GEORGIANA GODDARD KING

Photographs by E. H. LOWBER

SORIA is an odd place, full of marked types and ancient churches; only after a while does the traveller make out that it wants a cathedral and that he has been missing this. With red-roofed churches crowning red spurs of ochreous hill on every side, the town yet lies on a slope in two directions, inclined to the east but likewise to the south. The longer streets descend, gradually at first and then with a steeper pitch, to the bank and the bridge of the Douro. The Plaza Mayor is tipped sideways, on the right hand, against the High Street, and the elderly, not uncomely, buildings of the national and the municipal authorities sit uneasily in the dusty square; along another, parallel to it, stretches the sixteenth century palace of the Counts of Gomara, superb and shabby, where the post-office hides and the diligences come in.

At the same time, steep ways run up at the left to the long back of the hill northward. Climbing up the short and infrequent streets, past S. Tomas, without intervening suburbs you come upon open ground, for the walls and

the Alcazar were destroyed by the guerrilla leader, Duran, in the War of Independence, to keep the French from profiting by them when he had to withdraw into the hills. In about five minutes more you top the crest and see the wide reaches of the upper plain, the land between Ebro and Douro. On the right, among the tawny miles, the river lies hidden in the broad valley it has dug for itself; on the left, to the edge of the vast river-basin, the mountains roll up like breakers on a lee shore, rank behind rank, to throw a faint, thin line of changing colours, lilac, sage-green, amethyst and periwinkle-blue. There the wind blows warm and aromatic from leagues of rosemary, juniper, and thyme. The evening lights burn there until the folding-star is lost among the swarming constellations.

In the middle distance lies the site of Numancia; in the foreground, the obelisk that commemorates 1812.

The Sorians, though not always a fortunate, have been a free people from the Iberian time. Though the town was small, they protested to



DOORWAY, S PEDRO

Soria

Alfonso X against his fond and vain ambition to become emperor and king of the Romans. In the Communal rising they played a good part, and to the immortal praise of the bishop it must be recalled that though he girt on armour and a heavy sword and led the loyalist troops in putting it down, yet in the day of victory he prevented the emperor's soldiery from sacking Valladolid, as, for the same emperor, those under the Constable of Bourbon were to sack Rome. When Soria submitted like the other towns, the prime rebels were safely out of the way, and in a few months the official lists of the revolutionaries were found to be missing, between one notary and another to have been mislaid and lost. In time long past the citizens, doubt-

less, had learned how to play off dog against wolf and lion against both, and keep a whole skin, for the land lay in the midst, between the kingdoms of Aragon, Navarre and Castile, and was held by whomsoever could hold it; so the bishops of the See, which is called of Osma, had to guard all ways at once, against the bishops of Burgos, Tarragona and Siguenza, the abbots of Arlanza and S. Domingo de Silos, S. Millan and Huerta.

Alfonso of Aragon, el Batallador, is known to have held Soria, and to have taken it as deserted, untenable by Moors and unsafe for Christians. He put his own men there, but, though the Templars were probably of these, there remains no building which can be referred to his time. Alfonso VII, his stepson, recovered it for Castile. Here, for the sake of security, the infant king, Alfonso VIII, was brought up in one of the great houses; the leaders and lords of Lara, that had charge of him, set the house of S. Cruz to be his guard, and when his wicked uncle, Ferdinand of Leon, came seeking the young child, they played a good game. When the king claimed to see his royal nephew, either the bright armour or the wicked eyes so frightened the baby that he clung to his guardian's neck, and at last was carried off screaming for bread-and-milk and bed. Then a swift horseman carried him to the Castle of S. Esteban, and thence, among the scattered hills, across the dusty leagues, to Gormaz, and so, by an armed hide-and-seek, kept him in safety, and King Ferdinand went home as he came. Alfonso, in 1170, when at fourteen years he attained his majority, dowered and enriched the town with what seems a real affection, and to his fostering, in the close of the twelfth century, must be referred the inception of all the great works that still remain.

The city, that counted once, besides convents and chapels, thirty-seven parish churches, keeps still, among others, four curious churches as unlike as possible, more diverse in origin than in age. Two of these are dedicated to S. John, one to S. Tomas and one to S. Peter enthroned.

S. Juan del Duero belonged to the Knights of the Hospital, S. Polo, close by, to the Temple, and the hospice and chapel of S. Lazarus completed the group that kept the bridgehead and dealt with all comers, strolling soldiers and tramping pilgrims, for the safety of the city,

SORIA, OSMA AND CUENCA

Now, three heaps of formless buildings stand in green meadows and beside the best of these, a roofless cloister. Like the cloister once, the little church of S. Juan is timber-roofed; the apse has pointed barrel vault and semidome, and on either side of this, over altars against the eastern wall, stand two strange little massive tabernacles, that look like chapels. In Ravenna, at S. Apolinare, the Ciborium of S. Eleucadius occupies the same place. The roof of one rises above the fabric in such a bubble or half-orange as the vaults of S. Giovanni degli Eremiti in Palermo; that of the other in a sort of cone, surprising and Asiatic. The eight capitals, which deal with fabulous monsters and Scriptural history, especially with the massacre of the Innocents, are the only ornaments in the church: they were probably determined by the carvings at S. Tomas, though not by the same hand. In the cloister, the capitals range from strap work and net, to lovely gothic sprays of cress, a few historied. Their themes are appropriate, the Marys at the Sepulchre, or the sheep, the wolf and the shepherd. The corners, cut off, are pierced with horseshoe arches, except that next the church door. About half the arcade is composed of very ugly interlacing arches, that recall the Amalfitan style; the rest partly of round arches, and partly of pointed or pointed horseshoe form. Mudejar elements might be looked for in Soria, where the *aljama*, or Moors' Ghetto, was one of the most important in Castile, but the tabernacles within, and the arches without, are closer to Italy than is anything else in Spain. The church, untidy and neglected, the cloister, unroofed and disused, standing amidst rank grass inside a blank wall—the scene is forlorn as a child left to the care of servants.

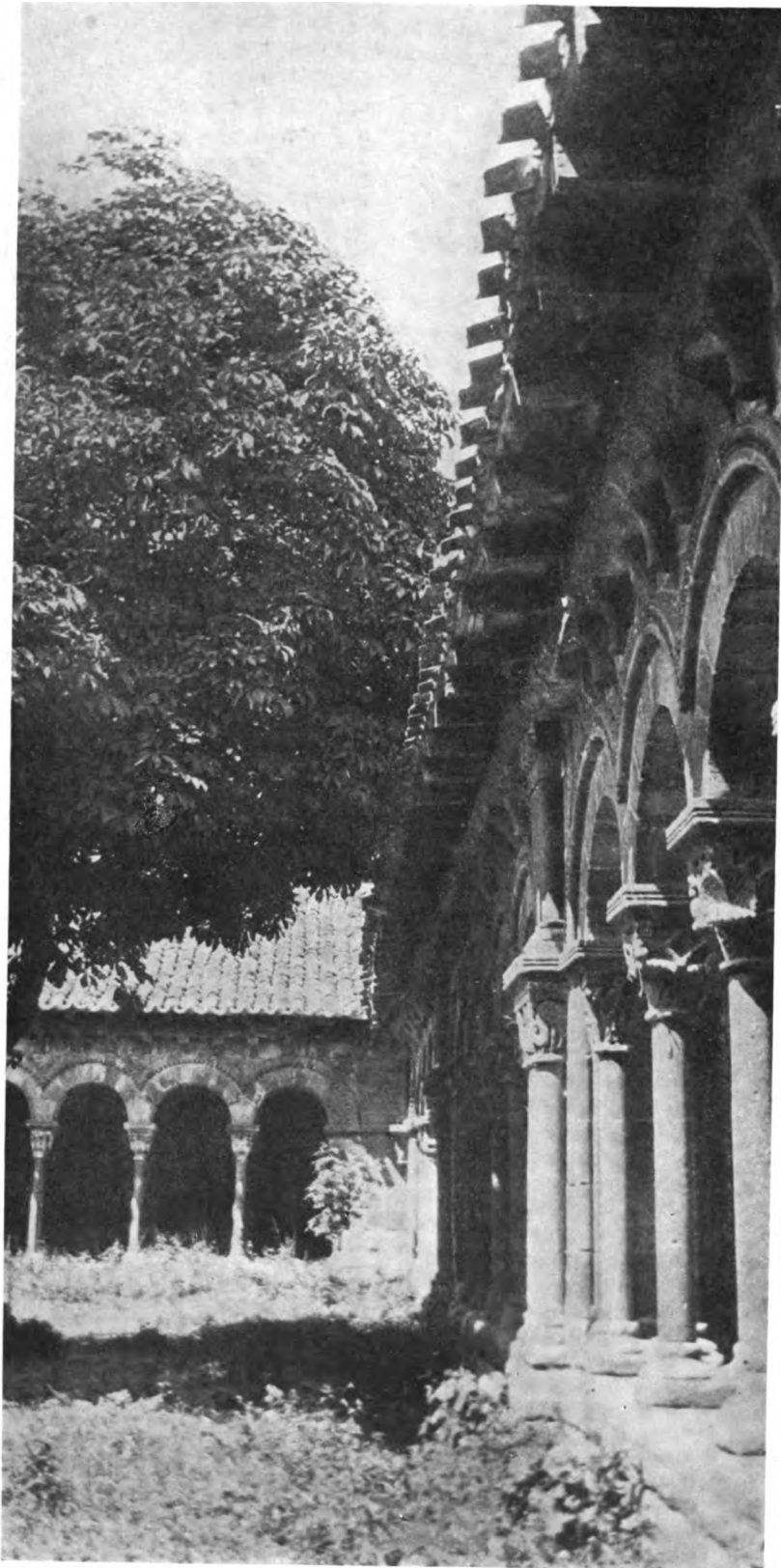
The most unexpected church, however, is the oldest, S. Tomas; built in the end of the twelfth century by workmen from southwestern France, many a parallel may be found to its double arcade along the road by which pilgrims came into Spain, at Pons and Plassac and Aubeterre and throughout the departements of Vienne, Charente, and Charente-Inférieure. An intricate cross crowns the wide slope of the gable, nowhere broken; the central portion is adorned with a rose or wheel-window of eight rays, set in a circle of such fantastic monsters as occur at Troja above the Adriatic



S. PEDRO

Soria

and at Cambre above the Atlantic. Below, the entire bay of portal, set a trifle forward, carries in the spandrel space—as at Verona and Toulouse—two reliefs of prophets. One of these sits under tabernacle work, the other under a pattern of cut-out discs, overlapping, that recurs in the head of the arcade-arches and also on the ruined church of S. Nicholas, and that I do not remember to have seen elsewhere. The prophets are Enoch and Elias, gate-wards of Paradise. The archivolts below tell of Christ, in this world and in eternity, and the tympanum is an apocalyptic manifestation of the Trinity. In short, the carving is rather nondescript in intention, and quite confused in style; the heads in the tympanum recall S.



S. PEDRO CLOISTER

Soria



S. JUAN DEL DUERO

Soria



APSE, S. JUAN DE RABANEYRA

Soria

Miguel of Estella; the capitals of the jambshafts and the two arcades continue the strong Franco-Hispanic tradition that reappears at S. Pedro; but the little figures in the upper rows of the archivolts have an indescribably oriental aspect, the Madonna in the Epiphany being fairly Greco-Buddhist, like a very lovely young Siddhartha. The church within has been ruined by rebuilding at least once, but the style may be recognized for Poitevin, with three lofty parallel barrel vaults, carried on arches, in the two western bays; it is now given over to a restoration of the most thorough kind.

To justify the existence of restorers, S. Juan de Rabaneyra, which was dug out of encasing plaster as late as 1908, exists. They revealed a choice piece of twelfth-century Romanesque with parallel apses, a dome on squinches, the pointed barrel vault of the presbytery sustained by diagonal ribs, and the chevet with its con-

tinuous substance fluted or rather pleated up into the semblances of ribs. It would seem from pictures that the church of Jazeneuil (Vienne) offers a prototype as a parallel. Two statues of the school of Toulouse are now built into the retro-choir, and the design of their arcade, composed with triangle, disc and scallop, I recall seeing only at S. Eutropes of Saintes and S. Antimo in southern Tuscany, a bit of Cluniac building.

The conclusion of the whole matter is, probably, that Alfonso VIII took builders where he could get them: Angevine, indeed, for Las Huelgas and Cuenca from the domains of his English queen, and Cistercians by the same token, but for Soria, Poitevins, less expert, less up to date, still Romanesque, and possibly with them a monk of Cluny; hired men from the great *chantier* at Estella and possibly from the great abbey of S. Juan de la Pena, in Aragon, for there are parallels in the capitals; borrowed as well, perhaps, from the Templars down by the river, for what I have called the Greco-Buddhist element will not be ignored. At least three men, or groups of men, worked at S. Tomas, and how the carving was done in little clumps and then set in place, is easy yet to see. If S. Tomas was the first great work of the *chantier* of Soria, then S. Juan del Duero imitated, and worked along for a couple of centuries; S. Juan de Rabaneyra shows the beginning of the transitional style; finally, lasting through the whole epoch, the cloister of S. Pedro.

That is one of the strongest and most splendid of its kind in Spain, all of a piece, timber-roofed, arcaded on coupled shafts, and sumptuously carved in the capitals, now with saintly legends, again with monsters, possibly the freshest and most life-like being those of the centaur and stag; often with strong fleshy leaves; or a pampas-grass. In places S. Pedro la Rua at Estella is imitated; again appear two lions with their heads between their feet, or a pair of dragons coiling up the capital and down again; cheek by jowl, these reappear at S. Andres de Armentia, near Vitoria. A collegiate church of Augustinians, S. Pedro should have been the cathedral and Soria the See; Alfonso VIII actually secured the bull from Clement IV, and Bishop Augustine, in the thirteenth century, would have approved the translation. Osma, however, was stubborn and in the sixteenth century, the chapter gave up the struggle and

SORIA, OSMA AND CUENCA

rebuilt in the noble late style which is so strong and high, so friendly, so satisfying in airy amplitude. "Enel año de 1577 se acabo de reedificar esta iglesia en el dia de San Pedro de la Catedral, habiendo mas de ochocientos anos que era Iglesia," says an inscription; the church already counted eight hundred years.

The See of Soria, then, which was Osma, lay away from the river and the road, and the cathedral stands in Burgo de Osma, a mile or so farther up stream, and five miles from the railway station on the old highway. Just as, if he had come down to Soria from Burgos by diligences, the traveller would have been aware of passing through the scenery of the Infants of Lara, so in going due westward from Soria he has been roused for some hours into a kind of familiarity with the landscape and the place-names, and realized at last that this wide yellow world, in which lone, rain-washed hills rise up to sustain a single tower, or a castle still perfect, or a forgotten town, is the scene of the Poem of the Cid. Here is Gormaz, yonder S. Esteban, somewhere hereabouts should lie the oak-wood of Corpes. From the railway station a narrower defile, guarded each side, on the cliffs of clay by ruined towers, takes him up, following a green stream, to the bridge and valley mouth of what was Uxama before it came to be Osma; lastly, to the cathedral town, lost there among the arid hills and found, strange and sudden as places are in dreams.

Aloof and perfect, except that the walls are gone, it is like a city under enchantment. The single long street winds from a palace to a cathedral, under its *soportales*, like Bologna or Mantua: the people are courteous and not visibly curious. There the chemist's shop lights up, at night, its painted porcelain drug-pots; the ruddy hams and sausages dangle, the green figs, cabbages and salads lie in soft piles; blue alpargatas and brown corduroys swirl and swing, the wine-skins smell of must, resin, and goat, like an old clown's jokes. In the inn you expect to hear Dr. Smollet grumbling, and calling for wine in bottles and bread made with yeast, both being unprocurable; in the square you expect to have Lazarillo, after begging, insult you adroitly; but no, the place lies under a spell and all the semblances of life go on as unaware of the spectator. Furthermore, the beds are as clean, the townspeople as kind and eager as though it were Italy;



S. JUAN DE RABANEYRA

Soria

and the cathedral, when reached, looks as fair and almost as pure as though it were France.

By successive French bishops, indeed, was built the first cathedral after the Reconquest, and the first and the second of these had come into Spain with the mighty Bernard of Toledo; it was Romanesque, and of it survives only the chapter-room, and some doors into the sixteenth century cloister that alternate with others in the most gracious plateresque. In the *élan* of the great building age, Bishop Juan Dominguez, the chancellor of S. Ferdinand, who had been abbot at Valladolid and was to be Bishop in Burgos, rebuilt the church, beginning in 1230, just ten years after Bishop Maurice laid the first stone at Burgos. He had the command of such workmen as commenced Burgos and carried on



DETAIL OF ARCHIVOLTS, S. TOMAS

Soria

at Leon, but whereas the detail of the capital and moulding at Burgos is nearer to Angevine, the figures about the transept portal at Osma are directly of the school of Rheims, and as late as the latest on the façade there. Within, the nave has five bays of cross-vault with the original shallow aisle-chapels, strong transepts, an eastern aisle thereto, and three apses. These possibly were five before the eighteenth century turned an ambulatory and threw out a circular chapel for the Venerable Juan de Palafox, finished in 1781, which is ludicrously like in intention and unlike in effect to Becket's Crown at Canterbury. But the rest is perfect: the clerestory windows, like those of Chartres, have no tracery, but a pair of wide lights set under a roundel in five broad lines, and in the chevet a single lancet to each bay. The banding and leafage are exquisite in proportion and in the grace of nothing-too-much. The vistas have, compared with those loftier in France, a special and serene charm. It is the flowering of the thirteenth century, noble and luxuriant, like a fair queen who can trust her soul to keep her beauty.

In the north stands the tomb of the first bishop, S. Pedro de Osma, carved with the miracles he worked, where the poor are crowding around his very body; the style is contemporary

with this church. The old chapter-room, vaulted on four pillars with storied capitals and wall-brackets, belongs to the earlier transept, and the Innocents are massacred by the same soldiery as at S. Tomas and S. Juan in Soria: it opens to the north from beneath the sumptuous Renaissance chapel of the saint, as the cusped roses open in the transept face above it; and the chapel, and the cloisters with their rich and intricate traceries, and the rebuilding of the south transept portal, are all about contemporary.

The western doorway is cramped between chapels, and though place is prepared for jamb-statues after the French manner, none remain there, but arcades, set thick with leafage in the spandrels, above and below. Like the leafage, the statuettes in the archivolts look to be of the fourteenth century, so also the leafage of a small door in the south flank; but the door from the north aisle into the cloisters recalls the work at Las Huelgas in the cloister of S. Ferdinand. Perhaps for want of funds, the sixteenth century did little real harm at the great transept door, beyond clearing out of the tympanum all but the lowest row of statues. These represent the Dormition with the twelve apostles. The six jamb figures are not quite alike, nor of equal

SORIA, OSMA AND CUENCA

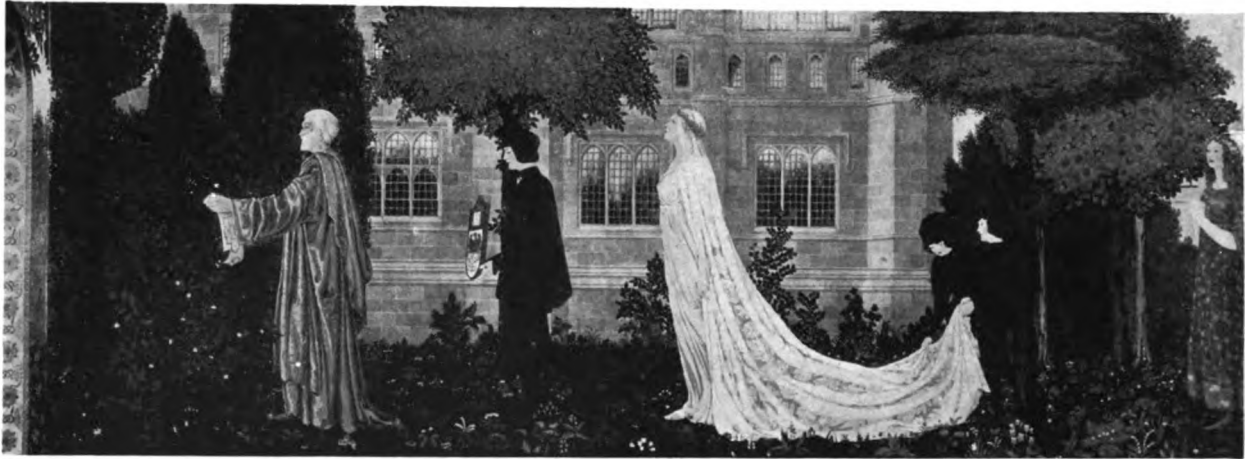
merit. The young king, beardless, who holds his sword in sheath and the strings of it wrapped about and fastened, in the touching and not unfamiliar image of those who seek peace and ensue it, is rather heavy; Solomon and Sheba are handsome creatures, the one properly coquettish, the other uxorious. But on the opposite side, Moses and the Angel, and the Virgin Annunciate, are as magnificent as they are Rémois, and far ahead of the door to Burgos cloister; liker, in truth, to the statues in the same place at Leon, and French not at second hand nor at fifth, but French from the chisel of another Villard d' Honnecourt.

An elder sister of Osma is Cuenca. Of S. Ferdinand's cathedrals, Osma comes closest to the pure cold Angevine style of Las Huelgas and Cuenca. On that high-lying cathedral, far off in New Castile, Queen Eleanor set for a sign her English hand, in the exquisite early-pointing of the arches and mouldings, the columns shafted and banded, the delicate *chapiteaux a crochets*, the tall English lancets of the transept so ill suited to the Spanish sky that they are built up in solid masonry, have been so always, and shall so remain. Alfonso VIII, having conquered the city, founded there a cathedral, says the *Coronica General*; the edifice boasts a most amazing lantern, also in the lancet style, cut off from the crossing in a way to which Spain offers parallels at S. Cruz de la Seros and in Mudejar building at Almazán near Soria. The fifteenth century has built a florid ambulatory with double aisles modelled on that of Toledo, but the pure and early part shows, eastward of the crossing, a double-aisled effect which was to continue indeed either in such an ambulatory, or else as an experiment in successive chapels opening up the eastern vista as at Soissons and S. Yved of Braisne, and perhaps at Southwell Minster. With the west front under restoration, the unspoiled nave blocked up; with all the sixteenth century splendor of forged *rejas* and carved doors and plateresque stone sculpture; with the deep cramoisy and rich blue of Ferrando Yañez's most Raphaellesque retables burning like obscure rubies in the transept chapels' dim profound, the cathedral of Cuenca continues, notwithstanding, to look somehow English. Outside, the effect is equally northern, and insular, with the long choir roof and the want of flying buttresses.



PEASANT OF SORIA

The old town of Cuenca rears its unvailed crest at the junction of rivers, like something in Auvergne or the Vosges, against a background of wooded mountain, piled high on purple steepy rocks above tall cliffs, the houses clinging to the sides of it like mudswallows, and above the town you may still climb and continue till you have pushed far into the Sierra. The steep streets are clean, clattering to donkeys' feet, and between the rare passers, the roar of the creek comes up, and the rustle of the green boughs far below. By sharp and devious paths you may breast the rusty cliff, and enter under a barbican where the wallflower and the snapdragon are nodding above the incumbent ivy-tod; or slip and recover, not once, but many times down a stony declivity to where thin poplars offer the mockery of shade to washerwomen in the river-shallows. In the wider valley, where the united streams run westward fast to the Tagus, you may buy green and purple figs, oozing sugar, and a green and olive earthenware, as perishable as it is graceful, and book for the diligence, and lodge cleanly. But all night long the trees by the river talk together in the mountain airs, and the stream is loud in the dark; and the long roof and square tower of the cathedral, that sailed among the clouds in the blue, are visited all night by troops of stars.



Spirit of Gothic Architecture

Page with Coat of Arms
of University of Chicago

Alma Mater



Youth

The Lake and the Woods

The Moon

Golden Sun Chariot



Spirit of Worship

Knowledge

The City

THE MASQUE OF YOUTH

Mural Paintings by Mrs. Jessie Arms Botke
Commemorating the Dedication of Ida Noyes Hall, University of Chicago



PIERROT

After a Lithograph by Ethel Gabain

The Problem of Rebuilding the Devastated Regions of France

By JEAN-PAUL ALAUX

NEVER before, within the memory of recorded history, has any country inherited a problem so difficult as that which has fallen to France as a result of four years of war. If one could visualize the ruins of San Francisco immediately after the earthquake, and then multiply this vision by hundreds, one might gain a limited idea of what has happened in the north of France. It is not only a problem of restoring numerous important towns and cities, but also there must be rebuilt several thousand villages, many of which were among the most charming we possessed.

Some of these villages, such, for example, as Ablain St. Nazaire, of which I have already written in the Journal, possessed churches which were classed among the *monuments historiques*, as well as other buildings which constituted a precious memory of the past. All of these have disappeared forever.

Among the more important towns which may be considered as utterly ruined there are the following: Arras, Soissons, Reims, Verdun, St. Quentin, Lens. Among those which have been seriously mutilated there are Amiens, Dunkerque, Douai, Compiègne, and Lille. In the list of smaller towns which have been completely ruined there may be mentioned Roye, Lassigny, Chaulnes, Montdidier, Ham, Bapaume, Peronne and Nesles. In this same class the towns in which the destruction has been great, but not complete, there are Noyon, Rethel, Vouziers, Cambrai, Bethune, Chaulny, La Fere, Pont à Mousson, and Château-Thierry, and this list might be considerably extended.

In Reims, before the war, there were 14,000 houses. Of these, 12,000 have been destroyed, and scarcely one of the remaining 2,000 has escaped serious injury. Of the villages, thousands have been so completely wiped out by the war that it will be practically impossible for some of them ever to find again any trace of either the houses or streets which once marked their sites. At Lens, for example, it is utterly impossible to trace a single vestige of the town.

One can only hazard a guess as to where the church was located, and the destruction is so complete that one feels himself in the presence of a result which was obtained only by the organization of a deliberate demolition, planned to accomplish the utter destruction of a whole town, leaving no vestige or trace of the centuries through which it had passed.

At Souchez, of which no fragment remains, the little river itself has become lost in the innumerable shell-holes of the region, and the site of the town has become a swamp. I speak of these districts where I was quartered as a soldier, and where I have, with my own eyes, witnessed the disaster which has befallen these once prosperous regions. Many of these villages, unhappy as may be the thought, have no doubt disappeared forever from the map of France; either their one-time inhabitants will never return in sufficient numbers to make it worth while to attempt a reconstruction, or, in other cases, it will be far more desirable and far less costly to build new villages on neighboring locations and thus avoid the almost incalculable cost of restoring any semblance of order to the ruin which now encumbers the former sites.

A further difficulty presents itself in relation to property boundaries. All traces of these have, in many cases, been completely lost. The only clue left is the Cadastre plan which rests in the archives of Paris, but this is on a very small scale, and it is known to have been incorrect at the time the war broke. Further to complicate this question, it is only necessary to record the fact that all records of titles kept by notaries or by the city authorities have been destroyed along with the buildings which contained them; the archives of all these towns and villages are gone forever. It must also be remembered that for four years many of the inhabitants of these wounded and ravaged towns and villages have been dispersed, not only throughout France but also in Germany and the neutral countries. The whereabouts of many is unknown, and to all intents and purposes they have vanished along with the homes in which they lived.

On the other hand, a certain number of these refugees have made one effort after another, ever since the outbreak of war, to return to their homes. With that tenacity of purpose which is perhaps one of the prime qualities of French character, they have reorganized their little villages, made habitable those houses left standing, and endeavored to pursue their agricultural work. In these efforts they have been admirably aided both by the American Red Cross and by the initiative of individual Americans. Gradually, and with the most painful of efforts and a sublime resignation, they have gathered together a few cattle, obtained seed for cultivation, distributed food and clothing and endeavored, not only to sustain themselves but to make a contribution to the sustenance of France.

Unhappily, the German offensive in March, 1918, obliged all of these courageous inhabitants to abandon their makeshift habitations (some of them for the third time)! Imagine with what sacrifice these patient people demolished and burned the temporary homes which they had built among the ruins, destroying as well all their stock of food, clothing, and material which could not be carried away. The business of war demanded that nothing useful should fall into the hands of the enemy, and certainly this ghastly tragedy of the twentieth century records few things more pitiful than the abandonment of these heroic efforts by the refugees.

On the signing of the armistice it became possible to think about permanent restoration, but in order to begin the rebuilding of these destroyed towns and villages, it will be necessary to build large temporary communities where not only the workmen employed may be housed and fed but where the returned inhabitants may be quartered as well, since it is recognized that they will wish to be consulted in the rebuilding of their homes while they carry on as best they can their regular occupations.

Thus, to carry out this work it will be necessary to organize great central depots for materials, huge workshops for the plumbers, carpenters, painters, and other trades, and, in a word, create a great artificial community with an artificial life in order that the permanent community may be reborn. It is easy to understand that such a work will be long and that it will encounter difficulties which cannot be fore-

seen. How, to put it briefly, can the work of many centuries be compressed into a few years?

Perhaps the difficulties at present foreseen might be enumerated in the following order as suggestive of the degree of their importance:

1. In order to carry away their plunder, the Germans took possession of every kind of vehicle; as a consequence, there is at present a serious crisis in transportation. For months it will be extremely difficult to distribute provisions in the devastated regions; it will be impossible to transport materials in anything like a sufficient quantity. All possible means of transportation will be required in order to prevent the present population from dying of hunger.

2. The towns and villages being for the most part utterly ruined, it is impossible for workmen to be sent there. No housing of any kind exists and, as I have before stated, vast temporary communities must be built before any effort can be made toward permanent restoration.

3. Slowly but surely the one-time inhabitants will wish to return, and it is in the common interest that they should return in as great numbers as possible, but this again involves a colossal problem of temporary housing.

4. For the restoration of the economic and industrial life in the north of France, it is imperative that the workshops and factories be rebuilt without delay. This can be accomplished only with the aid of money supplied by the Government; but manufacturers must know under what conditions this money will be obtainable. For example, if in accepting Government funds will they be obliged to rebuild their works in the same place and for the same purpose, or if they may use their money to build on new sites or for new purposes? The general destruction has completely changed industrial and economic conditions, and this fundamental problem must be studied anew. It is hoped that the question will be dealt with very shortly by the *Chambre des Deputés*. At the moment of writing, no manufacturer in the north of France knows the conditions under which he may begin the rebuilding of his industry.

Thus in summing up a problem so colossal and so complex, one may gather an idea of the extent of the organization which will be demanded. We are at work energetically in France on this question, and, in spite of certain indecisions, we hope that the winter will not

PROBLEM OF REBUILDING THE DEVASTATED REGIONS OF FRANCE

have passed without producing a definite plan of reconstruction established upon a sound base. The United States, which has so generously and so powerfully come to the aid of France during the war, can render even a greater service during the period of this immense undertaking of restoration. Thus, it is with the greatest pleasure that we have received the offer of the American Institute of Architects, placing at the disposition of their confrères in France such service as they may be capable of rendering and which may be useful. Immediately upon learning of this offer, I took pains to discuss the matter with my fellow architects in Paris, and in a purely informal manner I might say that the help which seems most urgent at the moment may be enumerated roughly as follows:

1. Could the United States ship us quickly, quantities of "knock-down" wooden houses?

2. Would it be possible to furnish ready-made materials in large quantities, such as doors, windows, glass, hardware, bricks, and tiles, paints, electrical material, plumbing and sanitary apparatus?

3. Would it be possible to mobilize or assemble this material in such manner that shipments could be made of rooms complete—sleeping chambers, kitchens, dining-rooms, offices, and a complete equipment also for barns and stables?

These are purely informal suggestions based upon the discussions to which I have alluded. As soon as possible we may be able to offer suggestions of a more definite character, and very shortly I hope to be able to send to you a complete analysis of the administrative organization which will deal with the whole great problem of rebuilding and restoring those once prosperous areas in the north of France.

Announcement Regarding the Fifty-second Annual Convention

NASHVILLE, TENN., APRIL 30, MAY 1 AND 2, 1919

The principal business of the convention will be the consideration of the report of the Post-War Committee on Architectural Practice and the effecting of such action as shall be best calculated to accomplish the vitally necessary results.

All chapters of the Institute, and architects individually, are urged to consider earnestly the preliminary report of the committee as printed in the January issue of the *Journal*, and any further communications that may be addressed to them by the Post-War Committee, so that they may be prepared at the convention to assist in its work with constructive suggestions.

This is a matter not merely of the Institute, but of the entire profession, and challenges the most thoughtful consideration. It lays an insistent demand upon the Institute which can only be met fully by each member taking upon himself his full share of the burden of responsibility.

Because of the important work of the Post-War Committee, as well as the desirable expansion of the Institute's efforts in other directions, the Board of Directors has found that the estimated expenses required for the work of the Institute during 1919 will exceed by more than \$10,000 the total estimated income for 1919.

The Board resolved, at its November meeting, that the budget then approved by it be submitted to the convention for approval as outlining a plan of action which the Board believed to be not only desirable, but necessary; and it further resolved that the membership be notified that a most serious interference with the post-war program will result if the convention does not approve the expenditures provided for in the budget.

With a view to meeting the demands of the budget, and with a conviction that the reserve fund was created to meet just such an emergency as now faces the Institute, the Board directed that due notice be given, and in compliance with the provisions of Article V, Section 5 of the By-laws such notice is hereby given, that authority will be requested of the Fifty-second Convention to expend out of the reserve fund the sum of \$10,000 or such other sum as the convention may determine, for the purposes of the Post-War Committee and such other extraordinary activities of the coming year as may be designated by the convention.

WILLIAM STANLEY PARKER,
Secretary.

Post-War Committee on Architectural Practice

MEETING, NEW YORK CHAPTER, FEBRUARY 18, 1919

THE meeting was announced as being intended to discuss items F, "The Architect as a Citizen," G, "The Contractor's Function," and H, "Advertising."

There was a fairly good attendance and the discussion was very animated. A number of papers previously prepared were read. Aside from one member who wrote a letter saying that, in his opinion, the whole inquiry was purposeless, every speaker or writer made a positive contribution to the subjects under discussion.

Under the heading, "The Architect as a Citizen," it was very generally agreed that it would be greatly to the advantage of the architect himself if he were to participate more largely in public affairs; it was urged that this should be, not in order to give the public a better idea of his functions and ability, but because of the duty which the architects owed to the community in which they lived. One writer said that the architect seems to be slow in taking up public questions as if he were fearful that his motives might be misconstrued and that some one might accuse him of merely looking for jobs. He also said that architects seemed to be more thin-skinned in this respect than were the doctors and lawyers. Every speaker insisted that the main purpose of such participation on the part of the architect in the discussion of public questions and the announcement of the joint opinion of groups of architects on public questions was in order to advance the public welfare and not in order to increase their own prestige.

The Status of the Contractor

Under the second heading, that of the "Status of the Contractor," there was a most animated discussion lasting an hour and a half, in which almost every one participated. Aside from the familiar points so commonly raised in similar discussions in the past, the following comments are to a more or less degree novel: One speaker said that when the contractor works on a cost plus basis, he is becoming a professional man in more senses than one. He claims the privileges of the professional man, that is to say, he tries to shift responsibility for errors! Then again, it was explained that more and more contractors today are nothing more than brokers working with their subcontractors' funds without any skill themselves as builders. In other words, whereas a few large, capable concerns have appeared in the foreground, there is a very large number of incompetent general contractors who have not one single qualification and are neither specialists nor qualified to supervise construction. In general, the point was made that a curious separation has grown up between the builder and the architect—a separation that did not exist in the days when architecture was a great art. Another speaker called attention to the fact that unless a line between the functions of the builder and the architect is clearly defined, the architect is assumed to carry even an incompetent builder through a job through his (the architect's) structural knowledge, and thus he encourages the incompetence of the builder; and again it was said that one reason why the big contracting concern is coming to the fore for big

operations is because it is so frequently able to render financial assistance to carry the job through to completion, either by taking bonds or stock itself or passing it on through its organization into the subcontractors' hands. Of the least competent class of general contractors who are thus engaged in what was called the favorite American habit of "passing the buck" it was also said that they really use their subcontractors to do the work and the architect is in reality the general contractor, as far as responsibility and general direction are concerned. It was pointed out, among other things, that the competitive system of bidding had encouraged the public to believe that the lowest bidder could be expected to do as good work under the direction of the architect as the highest bidder, no matter what the relative skill of the lowest price bidder might be. It was urged that architects should constantly point out to their clients the difference in quality of performance between good contractors and bad ones, and not hesitate to acknowledge that no amount of specifications and no degree of careful inspection would secure a good job from an indifferent builder.

This whole subject of contractors' functions not only brought out many criticisms as to the lack of exact methods on the part of many architects but called attention to innumerable objectionable features on the part of the building fraternity, and it was decided that a meeting or conference should be arranged between architects and builders for a free and open discussion of all their relationships. This led to the question of architectural education, but it was decided to devote a special evening to that subject alone.

Advertising

When it came to the final topic, "Advertising," the evening was already well along, and the discussion was consequently very brief. Nothing particularly new was developed. It was very generally agreed that the ethical or unethical had little to do with it; that advertising of the ordinary newspaper variety would, of course, be foolish and that the right kind of publicity could be secured through the professional or other journals which published reproductions of executed work.

On the whole, the meeting was the most interesting held by this chapter in many years. It illustrated fully the effect produced by the discussion of such subjects in an organized manner within a group. While there were individuals who wrote letters about the programme of the Post-War Committee questioning the necessity of any such inquiry, every one in attendance at the meeting took quite a different attitude the minute the first speaker had acknowledged his own weakness and confessed to certain errors of judgment in the past. Immediately every man opened his heart and the old bluff about the fault being entirely with the public and not at all with the architects was laid aside. This rather suggests that the work of the Post-War Committee, as far as possible, should be conducted through meetings, because only at meetings does the real truth come out.

ROBERT D. KOHN.

The Building Contract of the Future*

By SULLIVAN W. JONES

COMPLEX as are the conditions surrounding the modern building industry, there are in reality only two fundamental questions involved, and even these two are closely related. The others are the natural developments of them. One is the contract system; the system of selecting either general contractors or subcontractors, through competitive bidding on the price for a complete piece of work, under which the owner buys his building from the contractor or a group of contractors for a sum stipulated in advance of construction. The other question relates to the architect and his function. Both of these questions are under consideration by the American Institute of Architects. The one on contract system is before the Committee on Contracts and Specifications, and the one of the architect and his function is being studied by the Post-War Committee on Architectural Practice. But these two questions are fundamental in character.

The Fallacy of the Lump-Sum Contract System

The contract system which was in almost universal use before the war had revolved about two wholly false assumptions: One, that a modern building can be described by drawings and specifications with sufficient completeness to provide for an accurate computation of costs, and, hence, for bids on its construction that are fairly competitive; and the other, that the contractors' business is that of selling finished work, and that he is essentially a merchant, who should, but by no means always does, possess a specialized knowledge of the suitable and economical use of the things he buys and sells.

The first of these false assumptions leads us direct to a consideration of the sufficiency of the architect's service, while the latter involves a study of the contractor's status under this form of contract. We have thus established at least one direct relationship between the two fundamental questions. While they have been stated separately, so interwoven are they that discussion of them singly is impossible.

Origin of the Lump-Sum Contract

The stipulated sum construction contract is a product of the mercenary spirit of modern industrialism. Until the early part of the nineteenth century, the beginning of the industrial era, the lump-sum contract for construction was unknown. The great buildings of the Middle Ages and of the Renaissance period were not designed by architects, as we know them, or built under contracts. They were constructed by societies or guilds on what we would now call the cost basis, and were paid for, as the work proceeded, out of the public funds or voluntary contributions. The designers were master builders, members of the guild which had trained them, but with unusual ability in design. The earliest construction contracts were signed with a master builder, who, like his illustrious predecessors, was both

*Excerpts from an address delivered before the Institute of Electrical Contractors.

architect and constructor. He submitted his design and the price for which he would execute it. If there was competition, it was between designs with their corresponding prices. The builder had complete control of the work and the manner of its execution. The procedure was a perfectly safe one for the owner, because buildings were structurally simple, of few types, and the choice of materials was extremely limited. There was no question of standards of work; they were established by the pride which the artisans and the builder took in their skill, for neither pride nor skill had yet been destroyed by the feudalism of money.

Difficulties Develop

But with industrialism came accumulations of wealth by many who had not previously possessed it, and this change had an almost immediate effect upon practice in construction. In response to the demand for distinctive architectural effect in the homes of the newly rich, the builder with special aptitude in design became an architect. These owners applied to the purchase of their homes the same methods that had made profits for them in business. They strove to drive shrewd bargains with the contractor, and the architect was shortly called upon, not only to design the building, but to exact the utmost possible of the contractor for his client. The demand for distinctiveness in design and for luxuries led to complexities in construction, the employment of new devices and methods, all of which increased the architects' difficulties, both in preparing adequate drawings and specifications and in securing from the contractor what he considered the contract called for. In England, this condition produced the surveyor and the quantity system, while in France, the unit-price contract became the rule for better-class work, the unit prices being established by the national architectural society and recognized in law as standard, with the architect as "verificateur," a function corresponding to that of the English surveyor. The French system would seem to us most complicated, but it is the result of an effort at correction. But in this country we had done practically nothing until the Government was obliged to adopt a different system on its war contracts. Moreover, our problem is vastly more complicated than it ever was in either England or France, because we have led the world in the application of science and invention to the engineering of construction, and because American ingenuity has been freely utilized in meeting the demand for luxuries which have become successively conveniences and then necessities. Our buildings are now complex machines, the design of which requires the services of many engineering specialists, but we are still clinging to the contract practice of a century ago.

Competition in the Assumption of Risk

Let us assume for the moment that we wish to hold to the lump-sum form of contract and competitive bidding. Obviously, then, we must find some way of giving to the contractor in advance the information essential as a basis

for fair competition on price? Can it be done? Drawings and specifications may be improved through further standardization; inaccuracies of quantities may be largely removed by the adoption of the quantity system; and the cost of work may be placed upon a more accurate basis by the "open-price," which will also raise the price standard and assure a better margin of profit to the contractor. But are these partial remedies all that is necessary? There are always several ways of doing a thing, one less costly than another, and there will always be differences of opinion between the contractor and architect as to which is the best, or whether the substitute proposed is permissible under the contract. There will always be disputes over questions of quality because quality, both in workmanship and materials, is well-nigh impossible to describe. There is another important speculative element in every lump-sum contract, and it will exist even if drawings and specifications could be perfected. It is this element of risk which has now acquired such proportions that no sensible man is willing to assume it. When a contractor signs such a contract, he sells short for delivery over a stipulated period of time, the quantities of labor and material required. In some localities, in times more normal than these, or than those to which we look forward, the risk of loss to the contractor from a rising labor market has been minimized by wage agreements with organized labor. In other places that stability has not been secured. And the material market never has been and never can be brought under control. Estimating, even under the most favorable conditions, will always involve risk to the contractor, and as long as there are risks, competition will be based on risks instead of work to be done. The low bid, whether it be too low or not, will always be the product of the greatest error or the assumption of the greatest risk.

Competition Should Be Preserved

We are forced to the conclusion, it seems to me, that competition on price is economically unsound; which conclusion leads us to ask the question: Which is wrong, competition or the stipulated price?

Let us examine the case for the lump-sum contract. I have said it had a corrupting influence on everybody involved in it. Almost every ill and every evil in the building industry, I am satisfied, may be traced to the lump-sum contract. Under it the interests of the owner and contractor are diametrically opposed. The contractor's profit lies between the actual cost of the work and the amount of the contract. The greater the cost, the less the profit, and vice versa. The contractor's aim is, therefore, to deliver as little as possible, while the interest of the owner is in exacting the utmost of the contractor. The contract stands between them, setting up antagonisms where there should be cooperation, creating conflict of purpose where unity of interest is essential to success. Under the lump-sum contract the contractor has been a merchant, buying and selling finished buildings. All of us have been misled by thinking of the product rather than the method of production, by fighting over the division of profit rather than considering means of assuring reasonable profits to all who participate in the enterprise, including the owners. That is why the contractor has become a broker trading in contracts which represent finished buildings and their

component parts, instead of a constructor or engineer performing a professional function.

Contractors Cannot Be Merchants

The arguments against the general contractor being a merchant are possibly more conclusive than any that can be directed against the merchandising function for the subcontractor, especially the subcontractor who manufactures and installs a product, but they apply, nevertheless, with the force of conviction to both. The general contractor manufactures none of the materials which he handles. He has no plant or factory and has no legitimate use for either. He has no capital invested in anything of permanent value to him. The money which he uses in conducting his business is a temporary substitute for the owner's capital ultimately represented by the finished building. What is it the contractor has to sell? Service, his expert knowledge of the fabrication of buildings. In the last analysis, service is the thing he has always sold, but instead of selling it to his employer, he has sold it to himself. The system has placed a premium on disloyalty and shrewdness in the contractor, rather than on engineering skill and efficiency.

The same contradictions have confused and misled the subcontractor. He has wasted his best energy fighting for trade discounts on the materials he purchases in order to resell them competitively at a possible profit. He, too, has struggled to make a livelihood through the purchase and sale of labor and materials when he should have centered his effort on perfecting his service and finding a market for it. If service is the commodity in which the contractor deals, and we wish to preserve competition, obviously, then, competition must be in service and not in the price for finished work. The value of service is measured in terms of results. If economy is one of the results looked for, and secured, let it be an asset to the contractor instead of stolen fruit to be concealed.

The Architect and the Lump-Sum Contract

But we have not yet put in all the evidence against the lump-sum contract. The architect has not escaped its insidiously evil influence. The average owner, the owner who is inexperienced in matters of construction, undertakes his venture on the assumption that the architect is omniscient, and that when a bid is received on the drawings and specifications it is all-inclusive. This is the fallacy of the complete and sufficient drawings and specifications. A mistake is made when an architect accepts employment without disclosing to his client the unavoidable limitations which are placed upon his service. As the work proceeds, omissions are discovered, differences arise as to what is meant by vague expressions and indications, and the architect is at once placed on the defensive with respect to the sufficiency of his drawings and specifications. He has the choice of confessing his plight to the client or covering it up by compromise with the contractor. Some pursue the former and honorable course; others, the latter. The position of the architect under such a contract is unwholesome. It is unfair to him. It is unfair to the owner who has sought the architect's advice on the basis of confidence. It is unfair to the contractor. It is a high tribute to the profession, and the professional tradition, that so few archi-

THE BUILDING CONTRACT OF THE FUTURE

pects have succumbed to the temptations which constantly urge them to abandon the difficult role of conscientious servant.

Conditions and the American Institute of Architects

That the architect is keenly alive to his untenable position, and to the gravity of the consequences to the whole building industry if conditions remain unchanged, is evidenced through the appointment by the American Institute of Architects of a Post-War Committee on Architectural Practice, charged with the study of the architect, his function, relation to the public and public interest, and his education; and by the principles adopted as fundamental by the Committee on Contracts and Specifications in connection with its deliberations on the cost-plus-fee form of contract. These two committees, beginning work on two distinct questions, have found, for reasons I have already shown, that their labors are complementary; and I venture to predict that in the end their work will be coördinated, at least to this extent: That the Committee on Contracts and Specifications will perfect the cost-plus-fee form of contract and the other committee will recommend its universal adoption.

The Cost-Plus-Fee Contract

The cost-plus-fee contract, as we have known it, has been a compromise document. The status of the contractor, by reason of his contract liabilities, and by reason of the unchanged attitude of the architect and owner, was not radically different under this form of contract from what it had been under the lump-sum contract. While his interests coincide with those of the owner, the contractor failed to realize the nature of the relationship, and, consequently, his attitude of mind remained unaltered. The Committee on Contracts and Specifications feels that the change must be complete, and that such changes must be made in the document as will give the contractor a new picture of his status and responsibilities. The Committee asserts that, "in the light of recent experiences of the Government in the use of the cost-plus-fee system, the following general principles are felt to be fundamental":

"(1) The contractor becomes in effect a professional adviser of the Owner, as his 'Construction manager' and should be relieved of all contract liabilities inconsistent with such a relationship; (2) For this purpose the Owner should pay directly for all materials and should enter directly into contract with subcontractors rather than having subcontractors make their contracts with the Contractor. Payrolls must perforce be paid by the Contractor and reimbursement made by the Owner; (3) In view of this professional relationship, no 'bond' guaranteeing performance is needed or proper, any more than for the architect."

It is difficult to comprehend at once the full significance of this statement. The principles enunciated find expression throughout the document. There was a discussion at the last meeting on the expediency of changing the term "contractor" to "constructor," or "manager of construction," or "constructing engineer," but it was decided that a wiser course to pursue was to use the old and familiar term and let the contractors' wishes gradually crystallize into the choice of some substitute term which would

be more appropriate and more descriptive of the new function.

This is the wording of the clause, which, in the older form of contract, was captioned "subcontracts." It now bears the title "separate contracts":

"All portions of the work that the contractors' organization has not been accustomed to perform, or that the owner may direct, shall be executed under separate contract. In such cases, either the contractor shall ask for bids from the contractors approved by the architect and shall deliver such bids to him, or the architect shall procure such bids himself, and in either case the architect shall determine with the advice of the contractor and subject to the approval of the owner, the award and amount of the accepted bid. The owner shall contract direct with such approved bidders, etc., etc."

This clause, it will be observed, establishes the relationship between the so-called subcontractor and the owner or architect, which the subcontractor has sought to realize through the elimination of the general contractor.

The Architect-Contractor Relations

The Post-War Committee on Architectural Practice has made several important announcements in connection with its study of the architect, his function and conditions of service, and it is interesting to note how the line of inquiry has led the Committee directly to considerations of contractual relationships. Under a subdivision of its work termed "contracting," the Committee has issued a statement now familiar to all readers of the Journal.

The Advantages of the Cost-Plus-Fee Contract

It must be now plain that the architect's status and function cannot be considered without considering, also, the status and function of the contractor. It seems almost superfluous to point out the advantages to the whole building industry from making the cost-plus-fee contract the rule instead of the exception. It is important, however, for us to think of this proposed change in terms of results, so that we may all have a clear conception of what it is we are striving for. But when we think in terms of results, we again find it impossible to think of the architect and the contractor separately. First, the contractor, or let us call him the constructor, will be selected on the basis of confidence and his service record. Since the contractor's profit will no longer depend upon his ability to cheapen the work, which has been the motive underlying the general practice of offering substitutions, we may expect fewer discussions of this kind in the future. Considerations of price alone will less and less influence the selection of materials. The architect and the contractor will work together instead of in opposition. The knowledge and experience in construction which the architect lacks will be furnished by the "constructor." This, to my mind, is one of the most important results that will be secured, for it must be realized, and is realized by the thinking element in the architectural profession, that ability in design, which reaches its highest development only in men who are sensitive, imaginative, and impulsive, is wholly incompatible with the scientific quality of mind that works in exact terms of fact and statistics; an essential prerequisite to the proper performance of the "constructors" function. Under the cost-plus-

fee form of contract, the architect, the contractor, and the owner enter into a tri-party agreement to accomplish a single end. It does not require much imagination to see in this change in the contractor's status the reincarnation of the master builder of the Renaissance, through a virtual, if not an actual partnership of the two talents that produced the world's most inspiring and enduring architectural monuments.

The salvation of the architect, the contractor, and the industry lie in such a partnership of talents. If it cannot be brought about, I predict that contractors will try to become architects as well, and that architects will attempt to become builders—and, in the broad sense, few will succeed. Buildings will be either poorly constructed or poorly designed, and the loss to the public and in the prestige of the industry will be immeasurable.

In connection with the adoption of the cost-plus-fee contract system, I wish also to point out the importance of a standard cost accounting system and the greater value of the open-price plan as a powerful factor in education and in establishing mutual confidence.

Change Needed in Policy on Building Loans

There is one, and only one, serious difficulty which lies in the way of securing these fundamental reforms. It will be necessary to effect a change in the policy of the lender of money for construction. Relatively little new construction is carried forward without building loans. Such loans are usually a certain percentage of the contract cost of the building. The question is, can the great lending companies be made to feel that they will be amply protected in lending the same percentage on a carefully prepared estimate by a reputable "constructor," even though the amount of that estimate is not guaranteed by a contract and bond? I believe that, ultimately, such loans will be secured on the basis of confidence, even more readily and with less question as to values and risks than has been the case in the past. And I believe, also, that loans so made will be more secure than those made on the lump-sum contract ever have been. This must be so, because the building will be a better investment; both upkeep and depreciation will be less, and costs will rest on the stable foundation of true values, not on the insecure basis of speculation.

The New York Reconstruction Commission Studies the Housing Problem

One of the principal committees of the Reconstruction Commission which was appointed on January 20 by Governor Smith of New York, is to recommend a policy in regard to housing.

During the past few years, through the influx of war workers, there has been a large increase in the population of various parts of the state. Meanwhile, there has been practically no building of houses. In New York City alone the usual annual increase is over 100,000 persons. Apartments for only about one-half this number were erected in 1917, and probably not more than one-fourth of the normal need was filled in 1918. The building of houses for the poorer class of workers in New York is practically at a standstill now. Insurance companies and banks have invested in Liberty Bonds much of the money which they lend under ordinary conditions for building houses in New York. At the same time uncertainty as to the future cost of materials is holding back all speculative building. Even if there were sufficient money available, it is questionable whether housing could be carried on successfully under our present methods, without a radical reduction in the cost of building or the increasing of rents far beyond the means of the unskilled workers. That this is true not only of New York City, but also of other portions of the state was made evident at the first public hearing of the Housing Committee, held at Buffalo, on February 7. At this meeting the secretary of the Chamber of Commerce of Niagara Falls said that, as soon as business is again under way, the same large turn-over of labor which had been experienced during the war would result from the insufficiency of satisfactory workingmen's houses. At the second hearing of the committee, held in New York City, it was pointed out by more than one speaker that lack of proper housing for the

poorer paid workers was not a result of abnormal conditions, but had existed long before the war.

So it is apparent that, if the work of the Housing Committee is to be of permanent value it must do more than answer the question: Is there any way of starting building at once, so as to meet the pressing need of more housing? It must enter the much broader field of developing a practical and workable policy in regard to housing. Its investigations must be such as to find an answer to such questions as these: What are the actual conditions under which the workers of New York live? Are they what they should be? If not, can private initiative, unaided, supply sufficient houses such as to give an opportunity for the standards of living which should be provided for American life? What measure of constructive or restrictive legislation is most likely to secure the desired end and yet leave the greatest possible freedom of individual initiative? What can we learn from the experiences of foreign countries? Can these experiences of other lands be modified to meet the distinctive features of American life? Can any part of our own experiences in war-time be developed to meet our peace-time needs?

To aid his committee in making the studies that will be necessary to find an answer to these questions, Mr. John Alan Hamilton, of Buffalo, the chairman of the Housing Committee, has appointed an advisory council, consisting of men and women experienced in the financing, planning, building, and managing of housing and the development of real estate, as well as experts in housing legislation and its administration. Among the architects who have been asked to assist as advisors are B. L. Fenner, R. D. Kohn, F. L. Ackerman, Andrew Thomas, Miss Marcia Mead, and Clarence S. Stein, secretary of the committee.

Living Architecture*

Concrete seems to be a poor building material, but it brings back one of the fundamental methods of construction—that of continuous aggregation, a method which, while the material was mud, first produced vaulted and domical buildings, a great class of structures which are the natural outcome of such plastic materials. It thus gives to us once more the possibility of erecting solid roofs. Such a system of homogeneous building, with roof of cylindrical, conical, domical or other forms—the low dome, cone and pyramid seem especially suitable forms—taking the place of the poor wood and slate coverings we have been accustomed to, opens up large possibilities of more dignified and interesting types of planning as well as more monumental superstructures.

A weakness of modern architecture is in its not having sufficient grasp of modern scientific construction. The failure of English engineering is that it is usually mean and brutal, like Charing Cross Bridge, or, ashamed of itself, it seeks for disguises like those of the intolerable Tower Bridge. Judging by its works rather than its claims to “science,” our engineering seems often both ignorant and impotent.

We have both to get rid of fear and develop a proper pride for our own matters. There is nothing necessarily evil in modern materials or requirements; it is the spirit that tells. I have no love for modernism as such, and fain would hide my head in the sands of the past, but I cannot help seeing that the courageous mind will shape even seemingly hopeless materials to its purpose. As I found well said in an examination paper, “these things are plastic to the spirit.” Plastic to the spirit are even concrete and iron, if they must be used, no less than marble and bronze. The ideal for masonry has been definition and delicacy, sharply cut angles, moulding, carving. The ideal for concrete construction is much the reverse: it is that of continuous aggregation into a homogeneous, chambered mass; the structure is “cast;” simple forms and rounded edges are required. Its special disadvantage is in being liable to cracking, and the least cracking in such structures seems to destroy the possibility of our having any pleasure in them. A building of such a fabric should be as continuous and sound as a china vase. It is necessary first of all to improve the material so that it won't crack. Our continued use of materials like mosaic and cement floors in such a way that rivers of cracks wander over them after a few years is somewhat astonishing.

Once having mastered the material and having produced a fairly even surface, we have to bring out what it can best do on its own merits, and put away any attempt at imitating forms developed in stone and brick building. Curved lines in plan and slanting and curved surfaces would seem to be specially appropriate to this mud-like material which must be modelled as it were into form. Inferior angles of Roman rooms were usually rounded. Corners might be rounded both within and outside; cornices, if any, might

be simple coves or rounds. The surface could be finished with white and color washes, plastering, painting, rough-cast, sgraffito, marble-veneer, mosaic, glazed tiling and glazed terra-cotta applied in panels and medallions. The aim should be to develop structures in which the walls and roofs are all of a piece; and there is surely something exciting in such a mode of building. The general design must in every case be arrived at as the best constructive solution of the given problem, but it must be a fine and civilized solution, not a raw and haphazard one like so many of our engineering works. Exquisite common sense is wanted. The aim should be for masterly construction appropriately or even delightfully finished. Beauty in structures is not a question of mere shapes, but it is the evidence of mind acting on materials. If we could have a fine market or railway shed (or even a cathedral) schemed like some of the wonderful war sheds drawn by Mr. Muirhead Bone, well built of its kind, flooded with light, carefully finished, brilliantly whitewashed like a lighthouse, and decorated with fine paintings, we might “catch our breath” once more at the sudden sight of a piece of living architecture. It would be as interesting as a concrete ship. Whenever our buildings are again designed for their purpose as directly as a fiddle, a gun or even a motor or airplane, they will be romantic once more. Again, let me say, my heart is with the old and the humble. I do not desire these scientific developments for their own sake, and it is a cursed spite that I must try to set them right. One of the buildings which has most interested me recently is the newest museum building at South Kensington, temporarily completed with the “style” left out. Many of the temporary war buildings are also direct and structurally interesting. Although such buildings are frequently only skeletons, they demonstrate that a piece of architecture may be got to stand up without shamming dead. Now, having proceeded so far, what prevents us going forward to finish and refine and even adorn the thing without burying it in undertakers' doleful trappings? Why is it that one may never see a building for its ornaments? Let us consider the “carcass” of an important public structure. A rim or lining of marble might be put around the doorway, and over it could be some fine heraldry carved, gilt, and coloured from the design of one of our heraldic experts; not the fat tame stuff we are accustomed to, but keen and vigorous. This would probably be enough, we don't want our buildings worried all over, we want richness and colour and food for thought, but we also need bareness and relief and peace. Or a set of fine sculptured panels, about something, might be set low down where they could really be seen and loved—really loved—not tolerated or hated. Or an inscription really saying something in clear, strong lettering might be cut in in a band high up, or in a large panel, or, again, this might be in mosaic of gold letters on blue, or black letters on gold—not timid and frightened and non-committal, but an inscription to lift up our hearts. Or between the windows might be a set of really handsome medallions in glazed earthenware, either in relief or only painted devices,

*Extract from No. IV of the series of articles by Professor Lethaby which have lately appeared in the *Builder* under the title “A National Architecture.”

or portraits, but again, with some meaning and intention—surely we are rich enough to have meanings and intentions. Considering the problems of finishing in some such ways as these, and forgetting the Gothic, Elizabethan, and Italian styles, there is no end to what might be done in a perfectly frank, reasonable and healthy way. If such a method were customary, architecture would at once

stand out again as a sincere and manly art and gradually drop more and more of the powder and padding. I do not ask for bare and bald buildings—an architecture of the simple life and all that; not at all. I want to open a way to intelligence, expression, life and even exuberance. Quality of art is quality of life, and an architecture of reality is a necessary part of “the National Being.”

Notes by the Wayside

MANY YEARS AGO the name of Peter Cooper became familiar to us. In the readers of our primary school days, along with the story of Dick Whittington, Lord Mayor of London, was the story of wise and honest Peter Cooper, of New York, and his founding of that great educational institution, Cooper Union, where the youth of his city might gain knowledge under the proper environment, without enduring the hardships he himself had endured. It was also Mr. Cooper's idea ultimately to utilize one floor of Cooper Union as a museum of mechanical devices. Perhaps the idea of a museum of decorative design was far from his mind. But here enters fate in the persons of two little girls in plaid dresses made on one of the first sewing machines, with their hair tightly braided in unæsthetic “pig-tails,” of whom we shall speak later.

Outside of New York, the name of Abram S. Hewitt is less known than that of Peter Cooper, but to Hewitt, who married Mr. Cooper's daughter, fell the task of carrying on the gigantic work which Cooper began. Mr. Hewitt's French ancestry gave him an innate love of art and the beautiful. This love and understanding, fostered by travel in Europe when great awakenings in the world of art like the Crystal Palace Exhibition of 1851 and the Paris Exhibition of 1855 were taking place, roused in him an unquenchable desire to make it easier for his children and his fellow citizens to see and enjoy what he had seen. At the cost of many a sacrifice of time and slender means, he took his children, the two little girls before spoken of, to all available exhibitions and sales of works of art; he placed in their care his growing library of wholesome and standard books, and he made live for them through books and illustrations, the great exhibitions he had seen.

It is not so much to be wondered at, then, that as they grew older, these children, with their love of the beautiful so cultivated, should purchase with their savings of pocket money, a small collection of fine textiles rather than spend their money on such amusements and pleasures as would seem more natural for children of their age. The rest of the story is romantic and is, as Miss Eleanor Hewitt, one of the two girls, says, a curious mixture of miracles and fate. These girls were going to make a museum and were undaunted by the size of their task because they did not know how big it was. It all reminds one of the paraphrase:

“Angels step in
Where fools fear to tread.”

Contributions, gifts, and opportunities came thickly to this pair of ardent workers, and now the museum is a tremendous fact. The history of this unusual institution is filled with remarkable incidents: How Mr. Morgan, on

the eve of his departure for Europe, became interested in a collection of textiles for which the Misses Hewitt were negotiating; how he bought this collection with two others and presented them to the museum, in order, as he told Mr. Hewitt, to give his daughters pleasure; how at a private dinner party a chance meeting with M. Léon Decloux led to the acquisition of his comprehensive collection of original drawings which he had no previous notion of selling; how a collection of porcelains arrived at the custom house unpaid for, and how, with the same mail which brought the notice of arrival, came a cheque for the precise amount of the payment due; how a previously unknown visitor, after spending a delightful morning with the directors, left a cheque for \$10,000 as a memorial to her mother.

From the delightful Decloux collection of drawings to the smallest and least pretentious object, it is all useful to the worker. Besides the collections themselves, there are more than 1,000 scrap-books. For the making of these, rare and valuable books have been taken to pieces, much to the consternation of some who believed less in the utmost use of things. But the scrap-books and the collections are all arranged for the greatest ease of use and study. Its logical, consistent arrangement is the only thing which saves the museum from being hopelessly overcrowded in its inadequate housing. The Misses Hewitt, when looking for a home for their ambitious undertaking, bethought themselves of the idea of their grandfather in making one floor of Cooper Union a museum, and on one floor of Cooper Union it is today. It is all one great, unrestricted, and intimate workshop, and every corner of it shows the inspiration of the love of the labor put into it by its founders and again its dedication to the worker. Any one who sincerely wants to work with the background of the best work of the past for an inspiration, may come to this Cooper Union Museum to work. He is assured a welcome and all possible sympathy and aid. It is not a museum for fashionable visitors, but rather for appreciative workers. It does not contain numerous priceless treasures, but it does contain almost numberless objects of inspiration, all arranged in a most logical and instructive way. We shall not be far amiss if we call it, with its encyclopædic scrap-books and alcoves of objects, a great encyclopædia of decorative design—always ready to serve him who seeks its pages.

On leaving the museum the other day, we turned to that beautiful memorial to Peter Cooper in front of Cooper Union and regarded it with silent reverence. All honor to him and those who have followed in his footsteps. Here was a real citizen—the world needs more like him.

The Theory of Contrast in Pictorial Presentation

By ALFRED HOUGHTON CLARK

BRIEFLY stated, the theory of contrast is that everything which is seen as an entity is seen by virtue of its contrast with its environment and that in pictorial presentation such an entity can be presented only by the proper indication of this contrast. This theory is so simple that it is difficult to realize how broad and all-embracing it is.

With this theory as a fundamental always in mind, the author has taught many a pupil to see things in the proper way and to depict them, if not always in a masterly way, at least in a clear-cut, direct and proper way. One cannot be taught to become a master.

It has been found that a thorough appreciation of the theory of contrast leads to a better appreciation as well as a better practice of pictorial presentation, while its simplicity brings it within reach of any intelligent layman.

Any one of the physical sensations is merely a form of comparison between no sensation and some sensation, more or less. Hearing is recognition of the difference between silence and sound. Touch is but the cognizance of the difference between a contact more or less abrupt and more or less extended, and no contact.

Vision is only another form of comparison and is subject to the same law: that the point of attention is at the point of change. In vision the change is marked by a line of contrast; and drawing and painting, from the earliest scratches to the most highly developed pictures, are mainly concerned with the location, direction, extension and quality of these lines of contrast.

A pictorial line, whether a mere outline or the contour of a mass, is a statement of a visual fact. It says, "This form occurs here. It extends so far in this direction, so far in that. It comes out lighter or darker, brighter or duller, than what is behind it." If this were always borne in mind fewer mistakes would be made in the use of elements of design.

All things are seen as separate and more or less distinct. When the entire contour of an object merges or fades into the adjacent area in the field of vision it loses its distinction and becomes a part of the larger shape. When a part of the object merges into the background that part ceases to be an element in design and the other parts carry the element of distinction. An object may be so situated that the only distinct line is found on one side and from that point the tones are graded imperceptibly into the mass of the background.

Human beings experience visual impressions only by contrasting objects or forms with their surroundings or backgrounds. It is clear, then, that the degree of contrast is the measure of the vividness and clearness of the visual impression received; for the greater this degree of contrast, the more vivid the edges dividing the contrasting areas, and, consequently the more vivid the whole image, bound and determined by these edges, becomes. From various psychological manifestations in childhood it is probable that this appreciation of contrast and visual impression due to contrast begins very early.

It is wonderful how surely, how exactly, these expressive differentiations become unconsciously fixed in the mind. Any clear analysis of them is unusual and difficult, however. We are dealing with what we call an instinct, the faculty of recognition of substantial qualities at the sight of various contrasting tones applied upon a surface. These edges and modulations stand for certain facts known to all though understood by few. All normal persons have the instinct which recognizes a deviation from the vertical or the horizontal. All recognize variation of light and shade. All recognize variations in size and distance. All recognize difference in color, both as to hue and intensity. All have a sense of relative position. All have a sense of relative force or degree between successive areas placed in contrast. Therefore the pictorialist appeals to universal instincts and may play at will upon the emotions of an impressionable if not an analytical audience if he understands his instrument and his audience.

We know objects as separate and distinct but we *see* them, sometimes as entirely separate, sometimes as only partially so. Therefore, in a picture, it may be chosen to render the actual transitions as they appear to the eye, or, to figure the various objects as entirely separate and distinct from their background. This latter method is largely employed in drawings or paintings for scientific and commercial illustration.

The painter has to consider, in making his appeal to the mind through the eye, whether he shall appeal literally to the memory of the appearance of things or, figuratively to impress the receptive mind.

If he is to represent actual transitions he must not only study carefully the various phenomena as they occur in nature but must train himself so to use his materials as to render these phenomena faithfully, up to the limit of power of those materials. If he is to make a figurative appeal he must study the relation of cause to effect, the probable force of the various factors at his command upon the beholder. However spontaneous his effort may seem there must be a "method in his madness" if there is to be any permanent value to his work. No pictorialist who persists in dragging weakening or discordant elements into his work can succeed in making a favorable impression.

Undue or ill-considered emphasis upon a subsidiary line lessens the force of the really important elements and he must discover by unremitting experiment just how best to balance the elements and to place the emphasis properly.

Contrasts and Gradations

A picture is a structure of tone-transitions and these may be classified as: Contrasts, which arrest the eye, or, gradations over which the eye passes without interruption. The abruptness of a contrast and the fluency of a gradation have each their especial and peculiar effect upon the mind, and the artist who has full command of these resources may express his ideas with power.

It is well to illustrate the difference between a contrast and a gradation by the difference in the transitions of tone

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on the surface of a hexagonal prism and those on the surface of a cylinder. In one you see sharp parallel lines of contrast marking the faces. In the other you see a smooth gradation from light to dark and again from dark to light if there is reflection. The contrast is a distinct *jump* from one tone to another; the gradation is a *slide* from one tone to another—an infinite series of infinitesimal, and, therefore, imperceptible contrasts.

While the terms contrast and gradation refer respectively to abrupt and to gradual changes of tone, the term transition covers all varieties of change in the visual aspect of surfaces.

There is the major transition from one object to another, and there are minor transitions within the area of the object.

What is called the "modelling" of surfaces depends upon the character of these transitions. These may be more or less abrupt, may be classed as contrasts or gradations (or modulations if preferred). In any case, they should be characteristic of the structure or the texture which they are intended to represent.

Any two adjoining areas of similar value tend to merge or melt into a larger area whose edges make perceptible contrast: so, if separation is desired, one of the areas must be darkened or lightened at the edge or as a whole, or a separate outline of more or less contrast inserted.

Lines of contrast are important not only from the fact that they mark the determination of separate forms and are psychologically the strategic points in sensation, but also because a work of art must be constructed part by part; and no distinguishable area of contrast can be applied to a surface without consideration of the line which its edges make upon that surface. Wherever there is a perceptible shape, there is a perceptible line, and that line must begin somewhere and proceed somewhere and somehow.

The control of that line, of its location, direction, extension, and quality, and the degree of contrast of the edge of the area which it determines, may be either premeditated or instinctive: but control there must be if it is to become anything but a meaningless meander or an inconsequential smear.

By quality of a line we mean whether the line is straight or curved, simple or complex, in its movement.

In the simplest form of picture, a shape is imposed on a plain field or is expressed by an outline. In more elaborate representation, one area is succeeded by another directly contiguous to it and any extension of the form takes so much from the adjacent one.

An outline only describes the form. It is not the square but the fence around the square. It is not an apple but a line around an apple. Some of our educators have felt so strongly the necessity of fastening the attention upon the properties of the form itself that they discard the use of a preliminary outline and follow the method of the professional decorator who lays the forms on the background directly, with strokes of a well filled brush, securing, as far as possible the entire shape with a single stroke. But the brush, though expressing perhaps an entire area, makes a line at the edge which is subject to the laws governing lines of contrast and must be controlled.

There is always the danger that an outline may be

taken as an end in itself rather than as a means to describe a form. The copy-books of an earlier day had this defect. Those outlines, cold and dead, became mere conventions and when the student finally applied himself to the study of drawing from actual objects he found himself poorly prepared for the task. It will be noticed that the child attains precision of shape more easily in paper-cutting than with the pencil, for, in cutting out forms with the scissors, he is always conscious of the material inside the line. When he draws with the pencil he is as truly cutting out as if the scissors were used, but it is not directly realized.

The author has seen teachers in the lower grades of our public schools take a batch of colored drawings of flowers, birds, or other objects, made by the children, and, finding them ragged, fuzzy, and confused in contour, return them to the children to be cut out with scissors. Then, when pasted carefully on cards or sheets of paper, they appeared to much better advantage.

The earliest drawings which remain from prehistoric times are in the form of outlines, scratched upon surfaces of bone. The first juvenile drawing is a scratch, or a linear smear of contrasting material, upon any convenient, plain surface; meandering streaks of little or no objective suggestion, gradually assuming forms in which the drawn line is brought back upon itself, enclosing and, therefore, isolating a distinct shape. The next step in expression is to fill in the enclosed area with color.

The drawing-act, delineation, like all primitive acts, follows the path of least resistance, and definite control comes gradually by practice. When a child is old enough to realize the graphic function of drawing, it is time to call his attention to the necessity of truth to nature and construction. He will exercise control over the direction and extension of lines when he becomes interested in accuracy.

Edges

We know things visually by their shapes. Shape is determined by the movement of edges. A perfectly simple form has but one edge, that on the outside, which defines it as separate from all else. A complex form has within this larger contour a series of smaller shapes marked by lines of definition wherever the transitions of tone are distinct. The starting-point of the line determines the location of the enclosed form. The direction or directions and the extent of those directions determines the shape and the size. The quality of the edge determines the texture. The emphasis given to the edge by the degree of contrast which it bears, determines its force.

Every individual form or area is seen as in front of the one behind it; and at its edge the degree and character of each contrast should be observed and properly recorded in the picture. Beginning at the foreground there should appear a series of justly rendered edges, from the nearer to the more and more remote. A true statement of these transitions, well arranged, will insure a fine pictorial result, and the firm extension of ground and the ethereal extension of the sky will each be duly expressed. There is, in figure-painting and portraiture, a similar series of transitions whose principle must be observed if the picture is to be intelligible to the common eye.

The edge of every separate area is not only the boundary

THE THEORY OF CONTRAST IN PICTORIAL PRESENTATION

of its own shape but, quite naturally, inasmuch as it separates adjacent areas, it is at the same time a *boundary* of every *adjacent* area.

In drawing from objects it is often possible to secure a closer precision of shape by considering the form of the adjacent area. One writer on the study of academic drawing advises students to study all contours from both sides as a distinct aid to the realization of the exact shape of the object and an error in contour may often be discovered in this way which otherwise would escape the eye.

Certain materials lend themselves more readily to direct and beautiful expression than others, but whatever materials are used, the means to the end are always the same, an appeal to the eye of various visual transitions upon a surface. Any mistake in the sequence of gradations or in the disposition of the lines of contrast or edges weakens the appeal.

In the use of such materials as transparent water-color, in which the work should be left as laid, without disturbance, extra care is required in the determination of form because there is almost no chance for correction. When the blue tone of the open sky is laid against the white clouds it is determining their form for good or bad.

Other materials like oil, pastel, and opaque water-color, are possessed of considerable "body" or covering power; or, as in the case of charcoal, they are so mobile that erasure is easy. In their case an opportunity is allowed to trim back and correct the edge or line of contrast when the next tone is laid on.

The Spanish artists have an old saying to the effect that if you secure good edges you may smear dung in the middle. This means that the edges arrest and carry the eye, that they bear the greater share of the expressive function. They express by their contrast the degree of movement of the surface and by their quality the texture of the material. In decorative schemes the comparative contrast of the various edges of shapes determines their force in the total effect. In thorough tonal representation it is not enough that the various forms are detached more or less from their surroundings or are situated nearer to or farther from the eye; but the manner of the transitions, the character of the edges should make it plain over what sort of substance the light is moving. As the light moves so the brush must move, whether it express the light positively or negatively.

The great masters of painting are seen to render their textures with great care at the exterior edges and also along the interior lines of transition from light to dark, leaving the larger spaces comparatively broad in treatment. Hair, metal, satin, velvet, skin, all "break" characteristically from light to shade. Thus, in broad, masterly handling, we find texture exhibited only at the edges of the masses.

This suggestive rendering of textures is much better presentation than the laborious elaboration of the hairy hide of an animal, the blades of grass upon the ground, or every leaf upon the tree. There is, in landscape, a larger form of texture, as seen in the transitions from grass to earth, to stone, to bark, to foliage, to water, to distant mountain-masses, to sky, and from clouds to the clear blue.

An abrupt contrast is in itself emphatic according to its degree and its location in the picture. But there may be many contrasts scattered about the field and to be con-

spicuous it must be greater in degree or extent than its fellows or so located that it is conspicuous. As a matter of course, the more conspicuous contrast should emphasize the more important element.

Beside the use of contrast for separation or definition, it has another more subtle function, its use for emphasis. However we may define emphasis, as "stress in sequence," "bearing out," "increase of pressure," or "intensification," we are dealing with an element of great importance in pictorial presentation. In conveying a message to the mind through the eye, we present a group of major and minor elements. In just such degree as the major elements are made to stand out, is the message clear and the effect profound.

One of the most effective and yet most subtle means of emphasis used by the old masters was the enhancement of contrast at occasional strategic points. In the presence of an old masterpiece, if you will look carefully along the edges of any important area, you may discover that extra detachment has been given, not by any extensive variation of the tone of the surrounding area, but by skillfully introducing a narrow strip of lighter or darker value or of contrasting hue where the contour of the object and the background meet.

It may be the edge of a hand or the neck or a bit of the cheek or hair which the artist wishes to detach without altering its value, so he slips in a line of dark at that point on the edge of the background. If it is a dark contour to be brought out, a narrow light line is placed behind it. At a short distance this enhancing strip is not noticeable but its effect is apparent. It is not an outline, as generally understood, for an outline exerts its separating effect on both sides and continues throughout the extent of the contour. While it is true that in Nature we see no outlines, the aureola surrounding any dark edge when seen against the light and the well-known phenomena of complementary color-suggestions due to "persistence of vision" give ample sanction for the introduction of a narrow strip of enhanced contrast at desirable points.

The landscape painters of an earlier day used to speak of the values in a picture, meaning the respective force or tenderness of the tone-relations to express distance. All far-away objects were recognized as appearing dimly, in delicately related tones, while nearer objects appeared more and more distinctly contrasted according to their nearness; thus constituting a scale of expression of the third dimension in which no error could be made without having the effect of putting the offending object out of its proper place. Today we express this principle by the form "atmospheric values," and when we say "values" we mean the place which any tone occupies in a graded scale from white, the highest tone, to black, the lowest. In such a scale the utmost number of distinct steps which can be recognized by the eye in sequence is judged to be about seventeen, but the scale in general use is the one of nine steps arranged by Professor Ross, of Harvard University: White, high-light, light, low-light, middle value, high-dark, dark, low-dark, black. The steps are distinct and the intervals equal.

A picture may be made in any part of such a scale: in the upper or the lower register, in the middle, or from the extremes. The smallest number of tones which may be

employed is two, one contrasting more or less with the other. A very simple combination, often used in elementary instruction, is of three tones, white, middle, and black. Our public schools use, also, a scale of five tones, white, light, middle, dark, black, which gives considerable range of expression and is easily appreciated.

A photograph or a half-tone print of any sort of drawing in black and white may be considered as an example in balancing quantities of lighter and darker tones. In addition, the knowledge of a measured scale is of great service when we consider that in the use of color the various hues each have a definite place in such a scale and must be used with that in mind. Professor Ross distributes the colors as follows in the Neutral Scale of Values: White, high light (yellow); light (orange-yellow and yellow-green); low light (orange and green); middle (red-orange and green-blue); high dark (red and blue); dark (blue-violet and violet-red); low dark (violet); black. These colors are in the greatest intensity at present obtainable in pigments.

However, the value of a colored area, pictorially, does not depend so much on its place in a measured scale as upon the relation which it bears to the surrounding areas. Under the psychological law, the degree of contrast as seen at the edge is the important thing, rather than the area's place in a scale.

For the purpose of illustrating the relation between the Scale of Contrasts and the Scale of Values take the two extremes and the middle from the Value Scale and place them on three separate sheets of paper, white, middle gray, and black, respectively. When this scale of three tones is placed upon the white sheet the upper value, white, makes no contrast with the surrounding paper, so has to be outlined for separation, and its degree of contrast is zero. Middle gray is then four degrees of contrast. Black is four degrees deeper still, or eight degrees from white. Place these same three values upon the gray sheet and degrees of contrast will be marked as follows: Middle gray, zero; white, four degrees lighter; black, four degrees darker. Finally, place the three values upon the black sheet and the degrees will be marked: Black, zero; middle gray, four degrees lighter; white, four degrees lighter still, or eight degrees from black.

It will be noticed that, in the first scale, white must be outlined either with gray or black; that in the second, gray must be outlined with white or black; that in the third, black must be outlined with gray or white, to prevent its being lost in the surrounding space. This illustrates the principle governing the use of outline for separation or emphasis.

A picture should be examined critically to see if it stands the visual test: that no part comes out unduly, and that no part which should be definite is weak or confused. As the eye passes over a picture, it is arrested for a longer or shorter period at every contrast, according to its degree and quality. Any contrast of exceeding strength will persistently recall the eye, and, if untrue or inconsistent, will impair the value of the work as long as it is allowed to remain. A mistake in contrast is, undoubtedly, a mistake in values, but the sense of immediate contrast is the simpler and stronger sensation and, therefore, gives a better criterion. If the values are right, the transitions will be also. But the transition is the point of importance.

The real success of a work of art is measured by the extent to which the method shows the purpose or meaning of the artist. It seems a pity, therefore, that this principle has been so neglected in our schools. Some of our most prominent painters and educators now recognize the fact that the most important principles are acquired after leaving the schools; and they advise young persons of talent to keep away from the class-room and to secure their motives and methods by direct contact with actual work with professional workers.

In the last analysis, a completely rendered picture is of the nature of a mosaic or an inlay in which every separate form has its exact place and interlocks with every adjoining piece. This principle is of great value, for the utmost pictorial efficiency is secured when every separate element is rendered firmly and surely throughout its extent. Such work always has great advantage over the uncertain rendering of those who merely niggle over their surfaces.

It is a very simple matter to paint a picture, so simple that few can do it well. Given a canvas of the right shape, you sketch a few lines here and there which divide it into proportionate areas, then fill these areas in with appropriate color in tones justly graded, here for distinction, there for modulation; that is all. Yet we see canvases by the thousands containing gross violations of this simple formula: exhibiting contrasts where there should be gradations, and gradations where there should be contrasts, teasing the eye with ill-conceived emphases and ill-disposed lines, the purpose of the picture frustrated.

Summary

1. Contrast is abrupt change of visual impression in a single step; a jump from one tone to another.
2. Gradation is gradual change of visual impression in a series of infinitesimal and imperceptible steps; a slide from one tone to another.
3. Contrast appears in a line of more or less extent, either as the actual edge of an area or as an element of separation.
4. A line of contrast has four properties: location, direction, extension, quality.
5. Degree of contrast is the measure of differentiation and, therefore, the source of emphasis.
6. The eye follows lines of contrast; they are the edges and the whole drawing of pictorial presentation in the final result.
7. The edge of every separate area is not only the boundary of its own shape but, at the same time, a boundary of the shape of every adjacent area.
8. To measure contrast, the range from white to black has been divided arbitrarily into nine equal steps; these nine steps, arranged in sequence, comprise a Value Scale. From this Value Scale is formed the Contrast Scale, by designating numerically the degree of contrast which each of these tones bears to the adjacent one.
9. The essentials of a picture are few.
10. Contrast is the sole means of expression.
11. Composition is the science of the use of lines of contrast according to psychological law.

News Notes

Registration of Architects

Recently, in answering an inquiry regarding the New York law for the registration of architects, Mr. D. Everett Waid, President of the State Board for the Registration of Architects, commented on the salutary effect of the law. If architects are not registered, their prospective clients ask why, and as a result the certificate of registration is being recognized as a certificate of competency. It is also leading students and beginners to study in those colleges whose diplomas qualify for registration, and deterring those who have not the opportunity of so studying from entering practice until they have qualified through private study and experience in some good office. It must be remembered that the New York law does not prohibit anyone from practising architecture, but merely prohibits him from calling himself an architect.

Several states are now considering registration laws and doubtless many others will consider them in the near future. Mr. Waid suggests that, as it is highly desirable that a uniform minimum standard of educational requirements be adopted among the several states, a draft of any proposed law should be submitted to the Institute's Committee on Registration of Architects, of which Mr. R. E. Schmidt, 104 S. Michigan Ave., Chicago, is chairman, for criticism and suggestions. The Board of Directors of the Institute heartily favor and desire such action.

Subcommittee on War Memorials

At a meeting of the Executive Committee of the Post-War Committee held in New York City recently, the reference of war memorials to the Post-War Committee was considered.

It was decided, as a number of plans are now under way to give advice on this subject, to avoid overlapping, Mr. Horace Wells Sellers, Stephen Girard Building, Philadelphia, a member of the Post-War Committee, was appointed chairman of a subcommittee in charge of the subject of war memorials to which applications addressed to the Institute should be sent.

Mr. Sellers was empowered to name additional members of the committee without regard to Institute membership and to include both professional and lay members, if he so desired.

Architectural Unity in France

The project proposed by the Société Centrale des Architectes Françaises, and looking toward the amalgamation of the principal French architectural societies, has become an accomplished fact, the program for unification as put forward by the Société Centrale having been formally adopted by the Société des Architectes Diplômés, and the Association des Architectes Provinciales. Undoubtedly this marks an important step in the history of modern architectural practice in France. Divided councils and cancelled effort were too clearly condemned by war to let the lesson pass

unnoticed. Architectural unity—a world-wide unity—is the program of today and toward the attainment of that unity the profession should work unceasingly.

National Apprentice Schools of Design

As a result of a series of meetings held in New York during the past few weeks, by various societies and associations interested in the development of the arts and crafts, there will soon be opened in New York the first unit of the National Apprentice Schools of Design, the aims of which were set forth in the last issue of the Journal.

The movement took definite form when in February, the following Executive Committee was formed to establish the New York unit:

Joint Committee—

H. Van Buren Magonigle, *Chairman*

W. Laurel Harris, *Secretary* John P. Adams, *Treasurer*

Representatives from the Architectural League—

Leon V. Solon Horace Moran

Representatives from the National Academy of Design—

Elliott P. Daingerfield Francis C. Jones

Representatives from the American Institute of Architects—

Louis Ayers Robert D. Kohn

Representatives from the Manufacturers—

Albert Blum Otto Heinigke

Harry Wearne John Polachek

M. B. C. Crawford Embury Palmer

(Assistant Curator of Textiles,
American Museum of Natural History).

The teaching staff of the New York school has been recruited, and instruction will begin as soon as the school can be organized. Subjects which will be covered are furniture, tapestries, textiles, ornamental glass, wrought metal, and allied arts and crafts.

Similar schools will be established in other cities, with their own governing boards, but under the supervision of the national body.

The sponsors for the movement are The Architectural League of New York, the National Academy of Design, the American Institute of Architects, and the manufacturers whose products are dependent on the arts and crafts.

The Proposed Nebraska State Capitol

The legislature of the state of Nebraska has authorized a new state capitol, for which funds are to be made available in the sum of \$5,000,000. Recognizing the opportunity thus created, the Nebraska Chapter of the American Institute of Architects has urged upon the state authorities that the architect for the capitol be selected by competition among the first architects of the country.

St. Paul's Cathedral—The Progress of the Work of Preservation

The last stone in the restoration of the southwest pier was placed in position by Canon Alexander, a few weeks ago, after five years of uninterrupted work and anxiety;

and it is gratifying to know that the first, and, perhaps, most critical part of a far-reaching scheme—the practical rebuilding of this vital support of the dome—has thus been brought to a satisfactory conclusion.

It is clear, however, from the fact that the cement injected to solidify the walls has in some places found its way out through long fissures into the street and gardens outside, that the whole of the south transept has been badly shattered by the excessive weight of the dome; and it may yet be found that the southeast pier, on which the work is already steadily progressing, is in a condition not less serious than that of its neighbor. The widespread use of iron, which has everywhere rusted and split the masonry, is only one of several causes of deterioration.

If the work had not been taken in hand when it was, it is evident either that some disaster would before long have befallen the cathedral, or that the advancing decay would have rendered the task of repair almost, if not quite, impossible; and in any case there has been a danger of falling stones, which, though diminished, is not altogether removed. The slowness of the preservation work has been due to the extreme delicacy of it, as well as to the constant interruption of the services.

As seven piers have still to be dealt with, a long period of time must elapse before the cathedral is safe, and meanwhile the increasing cost of labor and of materials of all kinds constitutes a new problem. For so national an enterprise, however, it will be felt that Canon Alexander, whose appeals have produced about £50,000 for the fabric, will not have to plead for the funds necessary to enable the

work to be carried on without delay. Where is the rich man who will win for himself an easy immortality by supporting the dome of St. Paul's, as St. Francis is said to have propped up the Vatican? At any rate, where Wren's masterpiece is in question the country can afford to take no risks.—*Westminster Gazette*.

New Firms and Changes

Mr. Clarence S. Stein announces the opening of his office at 331 Madison Ave., New York City.

Messrs. Thomas Gannett Holyoke and Holyoke Davis announce the formation of the partnership of Holyoke & Davis, with offices at 649 Endicott Building, St. Paul, Minn.

The partnership of Berlin, Swern & Randall, Architects and Engineers, 19 S. La Salle St., Chicago, is announced, the principals being Robert C. Berlin, F.A.I.A., Perry W. Swern, A.I.A., and Frank A. Randall, M.A.S.C.E.

The American Housing Competition

We regret the delay in announcing the award in the American Housing Competition, but the reason is easily understood when it is known that each manuscript submitted had to be copied with great care, proof read with equal care, and copies distributed to each member of the Jury. The drawings submitted were photographed and prints have likewise been made available to the members of the Jury. It is hoped to announce the awards in the next issue of the Journal.

Obituary

Wilfred E. Griggs

Elected to the Institute in 1907

Died at Waterbury, Conn., July 24, 1918

Mr. Griggs was born in Waterbury, Connecticut, May 2, 1866. He was a graduate of the Sheffield Scientific School at Yale, and of Columbia University. After graduation from Columbia, Mr. Griggs worked in several New York offices until 1891, when he moved back to Waterbury and practised architecture, for several years associated with Mr. R. W. Hill, then for himself until his death.

C. E. Hartge

Elected to the Institute in 1916.

Died at Raleigh, N. C., October 25, 1918.

Mr. Hartge was born in Hamburg, Germany, September 1, 1865. He is survived by his widow, three daughters, his mother and several brothers and sisters.

Mr. Hartge came to this country at the age of seventeen and he built up an extensive practice in architecture in North Carolina and adjoining states, specializing in houses of worship, state and county buildings.

He was very much interested and instrumental in having passed by the General Assembly of North Carolina the act to regulate the practice of architecture in that state. He was the Board's first and only secretary, holding the position at the time of his death.

Captain Walter S. Keller

Elected to the Institute in 1914.

Killed in action, St. Mihiel, France, September 17, 1918.

Captain Keller came from Los Angeles, Calif., and was transferred from the Southern California Chapter to the Michigan Chapter. He enlisted in Pioneer Engineers and was commissioned captain in May, 1917. He went to Fort Benjamin Harrison and left for France, in February, 1918.

Captain Keller was carrying out very important and dangerous work and was just about to withdraw his men when killed.

He was buried at Viéville-on-Haye near Thiaucourt.

William Ernest Walker

Elected to the Institute in 1901.

Died at Chicago, December 26, 1918.

Born, November 19, 1867, at Covington, Kentucky. Prepared for college at Lakeville, Conn., and was graduated from Yale University in 1891.

Mr. Walker was associated with Henry Ives Cobb for many years and later with the Architectural Department of the Chicago Board of Education. He practised for himself since 1899. Mr. Walker was architect of many of the better class fireproof apartment buildings in Chicago, and also did many commercial buildings.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS & SPECIFICATIONS, FIRE-PREVENTION, MATERIALS & METHODS, STRUCTURAL SERVICE

SERIAL 3—FLOORING

CLASSIFICATION OF FLOORING

(For index of subjects previously treated, see Index on page 135 and consult the General Index in Structural Service Book, Vol. I.)

Concrete	2A	Mastic	3E
Wood	2B, 3B	Tile Cork	4F
Tile—Composite and Elastic	3C	Tile, Clay and Ceramic	4G
Magnesium Oxy-chloride	3D	Marble	4H

Floors, Wood, continued.

3B

3B1 Materials: (2B3, continued.)

Condensed data in tabulated form, giving the various gradings, dimensions and nailings for finished flooring, grouped with respect to species, is in course of preparation and will be published under Serial 4.

"Gum" flooring was used extensively by the Government in its emergency war construction. A large proportion of the flooring so used was discolored with sap. The material warps and twists, and the grain is most irregular. The waste in laying runs as high as 25 per cent.

An excellent finished floor for factories, mills, and warehouses may be laid of short lengths of maple or oak, that is, lengths 6 feet and less. Such short-length flooring may be secured in limited quantities at a cost considerably lower than flooring of standard length. The labor cost of laying short lengths is very little in excess of the labor cost of laying standard lengths.

There is a light-weight oak flooring which is not infrequently used when the price paid for the floor is low. This light-weight material complies in the matter of standard defects with the standard grading rules, but is in appearance and structure much like chestnut. To provide grounds for justifying the rejection of such material when offered for use, it is well to specify a minimum weight as well as the standard grade. Kiln and dried, plain or quarter-sawed, red and white oak should weigh not less than 4,000 pounds per thousand square feet.

3B2 Special Treatments of Finished Flooring:

Finished flooring, to be laid over fresh concrete fill, and particularly where the underfloor is omitted, should be treated to render it damp-proof. This is usually done by applying to the underside of the flooring-strips, either at the factory or before laying, a coat of heavy damp-proof paint. The paints which have proved most satisfactory for this purpose are those made with a heavy hydro-carbon base.

For further information relative to **Damp-proof Paints**, see **Hydrex Felt & Engineering Co., page XXII, Industrial Section.**

3B3 Fireproofing:

Many of the city building codes require wood-finished floors, in buildings of certain types and in excess of certain heights, to be fireproofed. Reference should be had to such building codes before specifying wood flooring. The process of fireproofing is usually that of impregnating the flooring with a silicate solution by the vacuum and pressure process. There are companies that specialize in this treatment.

3B4 Treatments to Prevent Dry Rot:

Sleepers to be embedded in concrete fill, and heavy plank underfloors laid on reinforced concrete floor arches or concrete floor fill which has not thoroughly dried out, should be treated to prevent dry rot. There are two classes of antiseptics which have been found to be effective for the prevention of dry rot. One class includes the creosote distillates of tar; the other, the various metallic salts used in water solution.

The creosotes are highly toxic, and, for all practicable purposes, are permanent. The oil must be forced into and diffused through the wood. This is done by the vacuum and pressure process. From five to ten pounds of oil to a cubic foot of wood should be injected. The amount of oil injected is determined by weighing test-pieces before and after treatment.

Tile, Composite, Elastic.

3C1 Nomenclature:

Tile floor-coverings at present available, which possess the characteristic of elasticity, are two in number:

The metallic salts show a tendency to leach out of the wood and are therefore of questionable efficacy for exterior work. They are slightly corrosive, though not sufficiently so to mitigate against their use in construction. They also seem to decrease slightly the strength of the wood treated with them. The salts are used in water solution, and are toxic in proportion to the strength of the solution. The following solutions are those which have been found to be sufficiently toxic to prevent fungus growth.

Corrosive sublimate (mercury bichloride), 1 per cent solution.

Zinc chloride, 2½ per cent solution.

Sodium fluoride, 1 per cent solution.

The saturation of the wood, through prolonged soaking, especially in the mercury bichloride solution, has been found to be inhibitive to rot. The time of such emersions should be twenty-four hours for each inch of the least dimension of the wood, plus twenty-four hours. If wood treated by emersion is cut after treatment, all cut surfaces should be brush-coated with the antiseptic solution, because the penetration secured through emersion is only about ¼ inch.

3B5 Block Floors:

Block floors have given excellent service in mills, factories, foundries, and warehouses, where they are subjected to heavy traffic.

The woods used for the manufacture of flooring or "paving" blocks are generally yellow pine, gum, and fir. They are usually impregnated with creosote in precisely the same manner as above described in connection with the discussion of the prevention of dry rot in sleepers and underfloors. (See 3B4.) These blocks are made with and without spacer lugs. They are also made in hexagonal form without lugs.

There is another type of block flooring known as "Bloxomend." These blocks are not treated to render them waterproof. They are secured by a dovetail joint to a base strip and are laid with spines between the strips. The manufacturer and distributors of this flooring will not lay it under what they term a "moisture risk," that is, where it is likely to be subjected to conditions which would result in its expansion. These blocks are made of yellow pine.

The creosote blocks are laid in two ways: First, on a sand bed, with joints pointed with Portland cement grout; and, second, in a bed of hot mastic with the joints filled with hot mastic. The latter method has proved most satisfactory for interior floors.

See **Long-Bell Lumber Co., page XI, Industrial Section.**

3B6 Waterproofing Mill Floors:

To eliminate the water-hazard in factories, mills, and warehouses, the waterproofing of floors is now considered good practice, and is recommended by the Fire Underwriters and the Associated Factory Mutual Fire Insurance Companies. This is done by laying over the under-floor a waterproofing membrane consisting of two thicknesses of tar or asphalt saturated felt, laid in precisely the same manner as for felt and pitch or asphalt roofs. The finished floor is laid over the waterproofing membrane before the pitch or asphalt top mop coat has become hard, so that the nail-holes are self-healed. The intersections of such floors with walls and columns should be flashed. Where floors are waterproofed, scuppers should be built into the exterior walls. For detailed information, see pamphlet issued by the Associated Factory Mutual Fire Insurance Companies, entitled "Water-tight Floors of Mill Construction."

For further information on "Membrane Method," see **Hydrex Felt & Engineering Co., page XXII, Industrial Section.**

3C

(a) Composition (linoleum).

(b) Rubber.

(a) Composition (linoleum) tile is marketed under various trade names such as "Beaver," "Everlastic," "Linotile," "Dreadnought," and

"Unico." The material from which these tile are made is manufactured in sheets by producers of linoleum. It is composed of the same materials and manufactured under the same general process as linoleum. The material is, in truth, high-grade linoleum, especially cured, of battleship weight, or slightly heavier. The tile are cut from these sheets in a die-press.

There are two principal reasons advanced for the use of this tile in preference to linoleum in sheet-form: one, that linoleum shrinks through aging, and, where it is used in tile-form, the shrinkage is distributed throughout a large number of joints and is therefore less noticeable; and, two, that the material may be laid in patterns and designs which are not possible to secure in sheet linoleum.

Tile of this description are made in interlocking patterns, similar to rubber tile, and also in rectangular shapes of various dimensions. The rectangular tile are sometimes laid with joint fillers of the same material, but usually of a different color from the tile, to produce the effect of a tile floor laid with pointed colored cement joints.

Many of the earlier installations developed serious defects. The tile crushed under furniture in the same way as the poorer grades of linoleum. This defect has been largely overcome by changes in composition. The

tile also cupped as the linseed oil content oxidized and the exposed surface hardened, through the failure of the setting cement to securely hold the tile to the base. Much study has been given to the development of suitable cements possessing the required characteristics of body, adhesiveness, low ductility, and resistance to the disintegrating effect of moisture. The cupping of tile is now almost absent as a defect in such floors.

The side joints in rectangular tile are cemented, as well as the backs. This cannot be done with the interlocking tile, which are usually laid in sheets as they come from the die-press, with the result that the joints open slightly in time, and moisture is apt to pass downward through the open joints and beneath the tile, breaking the cement bond at the base.

Such tile may be laid satisfactorily over wood or cement floors. When laid over wood floors, the surface to receive the tile must be smooth and composed of well-seasoned wood. It is good practice to stretch over the wood floors a cotton drilling, which is held in place by tacks spaced not more than 6-inch centers in both directions. The tile is then laid over the cloth in a bed of cement in the same manner as tile laid on a concrete surface.

(b) Rubber tile. (See Serial 4.)

Floors, Magnesium Oxy-Chloride

3D1 Nomenclature:

Magnesium oxy-chloride floors are popularly referred to as "composition floors" and "magnesite" floors. The term "magnesite" is preferable to "composition," first, because one of the basic elements in the floor is magnesite, and, second, because the word composition is most indefinite.

3D2 Development:

Magnesium oxide, in combination with magnesium chloride, forms a hard and durable cement, comparatively slow-setting and slightly resilient. This cement is the base of all magnesium oxy-chloride floors.

Such floors originated in Europe and have probably reached the highest mark of perfection in Austria and Germany. They came into general use in the United States about 1906. Owing to the large number of failures, they have acquired a questionable reputation, which is unfortunate, because floors of this character can be laid with almost uniformly satisfactory results. Failures, without exception, may be attributed to carelessness or a lack of knowledge of the materials employed.

A great number of contractors are engaged in the business of laying such floors, but many of them are ignorant and irresponsible, and have engaged in the business primarily because it requires but a small investment. Hardly a month passes that some composition floor contractor does not fail and a new one spring up to take his place. Contracts are secured by firms that are virtual impostors, because they can refer to a few successful floors, generally of small area, laid by them either at a loss or by accident.

The setting of magnesium oxy-chloride cement is affected by impurities in the magnesium oxide and chloride, by the proportioning of them, by the other ingredients used, by the temperature and humidity of the air during the period of setting, by the character of the base to which the material is applied, and by the mixing and troweling.

As the result of study and experimentation in the development of formulas for the compounding of the ingredients, and in the adaptation of European formulas to climatic conditions in the United States, a relatively small number of manufacturers are at present able to lay floors of excellent quality with a negligible percentage of failures. Probably no two of the formulas used are exactly alike. They have been developed independently and are held secret.

To the magnesium oxy-chloride cement, the base of all such floors, various other materials are added, as fillers, binders, waterproofing oils, coloring matter, etc., to produce certain desirable and sometimes essential characteristics. A description of each ingredient and its function, the methods of preparing the compounds, mixing and installation, and the causes of failures, will aid the many, who regard composition floors as a mystery, in acquiring the knowledge needed to make a safe selection.

Successful work depends upon an accurate knowledge of the materials used, the careful selection and compounding of them, and skill in application. When so many requirements contribute to success and when the neglect of any of them means failure, knowledge and experience must indeed be essential.

3D3 Ingredients:

Magnesium Oxide. Oxide of magnesium is derived by the calcination of magnesium carbonate, a natural mineral rock known as magnesite. The bulk of magnesite used in this country prior to the war was mined in Greece and calcined and ground in Holland, Germany, Italy, and also in Greece. The material now generally in use is mined in California and Canada.

The calcination or burning of the magnesite rock must be done at such a temperature that all of the carbon-dioxide content is driven off, about 1½ to 2 per cent remaining, which is required to insure proper chemical reaction with the magnesium chloride. Calcined magnesite which contains no carbon-dioxide is referred to as "dead burned," and

3D

has lost its caustic properties. Much of the magnesite rock contains a small percentage of lime as well as other impurities. Even a small percentage of lime in the calcined magnesite is most detrimental, because it creates an irregular set in the cement, thereby creating stresses which may later result in cracks in the floor. An excess of carbon dioxide, in combination with free lime, causes expansion which will bulge or buckle the floor.

Magnesium Chloride. Before the war, magnesium chloride was secured almost exclusively from Germany, and was a byproduct of the potassium mines in that country. The domestic magnesium chloride now in use was at first of very poor quality and contained large amounts of impurities. The quality of the product has, however, been greatly improved but still has to be carefully examined for the presence of impurities, such as calcium chloride and sodium chloride, which, if not taken care of, will insure the failure of the floor.

The strength and proportion of the chloride solution affects the hardness of the cement products by its combination with the oxide of magnesium. The strength and specific gravity of the chloride must be accurately fixed. An excess of chloride will affect the set of the cement and cause fading. The amount of chloride required to produce the proper reaction depends somewhat on the temperatures prevailing at the time the floor is installed, the atmospheric humidity, and the porosity of the base upon which the floor is placed. The amount of chloride is altered by changing the strength of the chloride solution, the quantity of the solution, in proportion to the dry materials held more or less constant to produce the mortar of proper working consistency.

Fillers. A number of materials are used as fillers in magnesium oxy-chloride floors, such as silix (finely ground silica), brick-dust, fine asbestos, infusorial earth, clay, wood- and cork-flour. Manufacturers generally recommend the use of either wood- or cork-flour exclusively.

Such floors are of two types: two-layer and single-layer. In the two-layer floors, the material for the under layer, or rough coat, generally contains a larger percentage of wood or cork and is of a coarser character than the finished layer. The wood in the under layer is in the form of coarse sawdust, and the cork is usually granulated. Wood-flour is generally made from soft point.

Wood-flour seems to be more generally in use as a filler than cork-flour. The manufacturers who use the cork-flour contend that wood-flour should not be employed because it swells in the wet mix and shrinks to its original size when the material has set and become dry, thus producing a porous floor. All manufacturers agree that the fillers used must possess absorbent characteristics in order to take up any reasonable excess of the chloride solution, thereby permitting the proper set. The filler must also have a low specific gravity in order that it may mix properly with the other ingredients and produce a floor of the proper consistency for troweling. Hence, mineral or other inert non-absorbent fillers do not function in the mix, except as they effect the hardness of the floor. For the purpose of regulating the hardness of the finished floor, and to aid in troweling, silix—finely powdered silica—is added in quantities from 4 to 10 per cent by volume of the dry material.

Composition floors containing no silix or other mineral ingredient are being installed in powder and fuse factories, and are designated as "flash-proof floors," the mineral being omitted to eliminate the danger of sparking from striking with metal.

Binders. Binders are used to give such floors greater tensile strength. These binders are such fibrous materials as hemp, coccoanut, sisal, or asbestos. They are used singly or in combination.

Coloring. The natural color of the finished magnesium oxy-chloride cement is a light gray. Various colors are produced by adding pigments to the mix. Pigments so used must be inert and of a character that will resist the attack of the chloride solutions. Finely ground, pure mineral pigments are the best. Almost any color or shade can be produced in the finished floor, but the blues, greens, and yellows have not been found to be permanent. The most satisfactory colors are the buffs, browns, and reds.

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Oils. Prepared oils are sometimes added to the mix in small percentages to reduce absorption by the finished floor. The oils used are generally mixtures of light hydrocarbons and vegetable oils combined under heat. Some manufacturers claim that the use of oils in the body of the floor is not advantageous. We know, however, that the addition of percentages of oils does reduce the permeability of the floor. Whether or not the effect is permanent we do not know.

3D4 Compounding:

The foregoing descriptions of ingredients and their uses indicate that great care must be used in the selection and proportion of the materials. Extreme precautions must be taken to detect the presence of impurities in order to insure the production of a satisfactory composition. This requirement imposes upon the manufacturer who would produce successful floors the necessity of careful preliminary laboratory work. It appears that most manufacturers use a constant proportion of magnesium oxide to the total amount of dry materials. It is known that cement formed by the combination of the oxide and chloride must contain a definite proportion of each fixed within very close limits.

Analyses of different manufacturers' materials have shown a percentage of magnesium oxide varying from 25 to 60 per cent. It appears that the density of the fillers used regulates the amount of magnesium oxide. When the chloride solution is used in excess, it does not all combine with the magnesium oxide, and the surplus chloride which is not neutralized will attack the coloring pigment, producing fading and the other phenomena sometimes seen in the finished floor, "sweating." Insufficient chloride will leave some of the magnesium oxide in its original condition, and a soft cement will result. Therefore, the chloride is generally used in slight excess, and the fillers are relied on to take care of any excess that may remain after reaction with the oxide. If the base upon which the floor is laid is absorbent, and it usually is, it will take up some of the excess chloride.

Manufacturers make the claim that the physical characteristics of the composition can be altered, i. e., either a warm, resilient, or a hard, stone-like floor can be produced by altering the formula. It may, however, be stated that the hardness of the floor is affected by the fillers used; mineral fillers, such as asbestos, clay, and infusorial earth, silica, and the like, produce a hard, stone-like floor, whereas vegetable fillers, such as wood-flour, cork-flour, silicious vegetable fiber, peat, and the like, produce a resilient, wood-like product.

3D5 Installation:

Magnesium oxy-chloride floors are installed over a base of Portland cement concrete or over metal or wood. It is claimed that the flooring material will effectively bond to all of these base materials. However, it

is found necessary to provide a mechanical bond for the material when applied to wood. When applied to wood, the bond employed is usually expanded metal lath, either painted or galvanized, stapled to the wood or clout nails driven into the wood 6 inches on centers in both directions.

When applied to metal, the same can be either chipped or provided with clamps to give a bond. Large areas of flooring have been successfully laid on steel decks of vessels, for instance, by applying two coats of "Elatorite," letting the first coat dry before applying the second, and then immediately laying the composition floor material on this soft coat.

Such floors are laid in plastic form in either one or two layers. The double layer floors are generally $\frac{3}{4}$ inch thick, each layer being half the total thickness. Single-layer floors are generally $\frac{1}{2}$ inch thick. When double-layer floors are applied to a Portland cement concrete base, the best practice seems to require that the base shall be strong cinder concrete, a 1:4:5, or preferably a 1:2:4 mix, screeded level, not troweled, but scratched or raked. For single floors, the concrete base must be prepared with a troweled coating of cement mortar, leveled and scratched or raked.

The dry materials, in powdered form, that is, the magnesium oxide, fillers, fibers, and coloring matter, are mixed at the factory and delivered in bags. The chloride solution is added to the dry materials immediately before installation. Only enough chloride solution of the proper strength should be added to the dry materials to make a mix of the consistency of putty. The material must be thoroughly compressed and worked under the trowel. It should be of such consistency and composition that a polished surface can be produced under the trowel without the application of surfacing oils. Nearly all composition floors are improved by an application of prepared oil or wax after the floors have thoroughly set.

The concrete floor fill, or concrete floor over which the magnesite floor is to be placed, should not be installed until after the plastering is finished. The reason for precaution is that lime or plaster paris, spilled upon the base upon which the magnesite floor is applied, will result in blister or bulges.

It should also be borne in mind that concrete expands and contracts, and, for this reason, expansion joints are provided in floors of large area. It is impossible to lay a magnesite floor over these expansion joints without developing cracks. It is advisable, therefore, to subdivide magnesite floor with joints coincident with the expansion joints in the base. Frequently settlements in fireproof construction results in cracks for supporting steel beams and supportors. Such cracks will carry through the magnesite finished floor. It is therefore advisable to lay strips of magnesite flooring over such points of support. If they crack they can be easily replaced without disfiguring the entire floor.

Magnesite floors should not be laid until all mechanics, except painters, are through with their work. No traffic should be permitted on magnesite floors for a period of three days after completion. Such floors should be protected, and the best protection is a coat of dry sawdust. Paper covering is liable to affect the color of the floor.

Floors, Mastic

3E1 Characteristics and Types:

Mastic floors are acid-proof, waterproof and dustless. They are of two types; namely, heavy service floors which are 1 inch or more in thickness, laid in mass and rolled down, and light service floors, usually $\frac{1}{2}$ or $\frac{3}{4}$ inch thick, and laid in a series of thin coats. The latter type is comparatively new, having first been laid in 1914.

The heavy service floor is suitable for use in factories, warehouses, and pressrooms. The other type is becoming popular for offices, laboratories and kitchens.

3E2 Heavy Service Floors:

Mastic floors of this type are common. They are laid in varying degrees of hardness, according to the service requirements. These requirements should be carefully determined in advance of compounding the material. If trucks are to be used on the floor, maximum loads and the width of wheel-tires should be specified.

3E3 Light Service Floors:

Mastic floors of this type are laid as thin as $\frac{1}{8}$ inch. Experience seems to indicate that a minimum thickness of $\frac{1}{4}$ inch is required for durability and service. Such floors should be laid in not less than five trowel coats.

The material for these floors is a combination of hydrocarbons. The base is usually a rock asphalt, cut with a light hydrocarbon, such as naphtha. Mixed with this material is short asbestos fiber, Portland cement, and finely ground silica; also, if desired, coloring matter, usually

oxide of iron. The only colors that can be produced are dark red and brown.

These floors are laid in multiple coats, so that the thinner used may evaporate from each coat before the surface is sealed by the succeeding coat. If this were not done, and the whole thickness applied in one coat, the floor would remain soft for a long period. Each coat should cure for 24 hours before the succeeding coat is applied. No traffic should be permitted on the finished floor for 3 days.

Mastic floors of this character dent but have a tendency to self-heal. They are easily repaired. The resistance to denting can be increased by increasing the percentage of silica and cement, but at the sacrifice of ductility. The effort in compounding the material is constantly in the direction of finding the happy medium between ductility and brittleness which will give the best floor service.

Light service mastic floors may be laid over concrete (smooth-troweled surface) and metal. They are also laid over well-seasoned wood floors as a "scratch" or rough magnesium oxy-chloride. (See 3D5 F.)

For further information upon **Mastic Acid-proof Floors**, see **Hydrex Felt & Engineering Co.**, page XXII, **Industrial Section**.

3E

Standard Construction Classification

The Committee on Structural Service again urges the readers of the Journal to contribute thoughts on a standard classification.

In this connection, they are referred to page 87 of the February issue of the Journal. It is of the utmost importance that a suitable classification for the material appearing in the Structural Service Department be decided upon at an early date.

New Method of Procedure Adopted by the Electrical Committee of the National Fire Protection Association

The Electrical Committee of the National Fire Protection Association, which has charge of the National Electrical Code, at a meeting held in New York, March 4 and 5, adopted a new procedure for discussions of Code rules and for the preparation of future editions of the Code.

The purposes aimed at are to provide an established method of dealing with proposed changes, secure their early and deliberate consideration by all who are concerned with Code affairs, and to encourage and provide for a more orderly participation in investigations and recommendations for changes in the rules than heretofore, both by the various associations having representatives on the Committee and all others in any way interested.

The plan in general includes the division of the Electrical Committee into standing committees having charge of groups of subjects and the general supervision of the work of technical subcommittees which will report to them. Each standing committee is charged with the duty of advising all associations, companies, or individuals, especially interested in the topics supervised by the Committee, of items under consideration and inviting comments, criticisms, and assistance.

The Bulletin issued by the Electrical Committee just before each of its biennial meetings for revising the Code will consist chiefly, if not wholly, of the reports and recommendations of these standing committees. It is hoped and intended that such reports shall be so fully discussed before the Bulletin is issued that they will have been well understood and their recommendations have been quite generally endorsed by all those who are most concerned with them and who are best qualified to judge of them.

It is evident that the success of this method will depend not only on the work of the Standing Committees but quite as much upon the cooperation of other organizations and individuals. This cooperation the Electrical Committee earnestly desires and solicits.

Before final action is taken by the Electrical Committee on a new edition of the Code, a public hearing is to be held for the discussion of standing committee reports and such other matters as an advisory committee may recommend for consideration. The final action on the Code will be taken after the public hearing, and with due regard to evidence and opinions developed by it.

The standing committees are to be assigned charge of the following ten general groups of subjects: Grounding Rules; Industrial Applications; Cars and Railways; Devices and Materials; Outside Wiring, Building, Supplies, and Services; Wiring Standards and Systems; Generating and Substations; Theatres, Moving-Picture Establishments, Garages, and other Special Buildings; Lamps, Fixtures, Heaters, and Signs; Signal Systems. The personnel of these committees will be announced shortly.

All suggestions for changes in the next edition of the Code (that of 1920) should be sent as soon as possible to Dana Pierce, Chairman of Electrical Committee, N. F. P. A., 25 City Hall Place, New York City.

The formal statement of the new procedure as adopted by the Committee is as follows:

Statement of Procedure of the Electrical Committee of the National Fire Protection Association

Committees:

Except as expressly directed by the Electrical Committee as a whole, the work of investigation and reports on technical and engineering subjects affecting the National Electrical Code shall be conducted by and through two classes of committees to be known as standing committees and technical subcommittees.

The appointment of such committee is not intended by the Electrical Committee to establish any hard and fast limitations of responsibility or of authority, or to restrict in any manner the interest or activity, either of any member of the Committee itself or of any cooperating association or individual, and it is expected and intended that the work of committees will, as heretofore, be assisted and supplemented by others through general and deliberate discussion of all changes and revisions of the National Electrical Code.

Standing Committees:

1. Standing committees shall be appointed to receive suggestions, initiate action, and organize investigations. They shall invite opinions and statements of experience from associations, bureaus, organizations, and individuals interested in subjects under consideration by the Electrical Committee for the betterment of the National Electrical Code.

2. Standing committees shall be composed of members of the Electrical Committee and shall be appointed by the Chairman.

3. The duties of a standing committee shall be:

(a) To act as advisors to the Electrical Committee and its technical subcommittees on the most suitable and appropriate methods of relating the work of the Electrical Committee to that of associations, bureaus, and other organizations, both those represented on the Electrical Committee and also others interested in or affected by the Committee's work.

(b) To advise the Chairman of the Electrical Committee of topics which should receive consideration.

(c) To receive from technical subcommittees reports as prepared from time to time, referring these to other associations, as may be desirable, for concurrence, criticism, or suggested changes in advance of final recommendation to the Electrical Committee.

(d) To render to the Electrical Committee reports on all matters referred to it. Such reports may contain recommendations for or against changes in the National Electrical Code and shall indicate which portions of the report should properly be included in the Bulletin. All reports to be acted on at the regular biennial meetings of the Electrical Committee shall be filed by the standing committees with the Secretary on or before December 1, preceding such biennial meeting, except that, by vote of the Advisory Committee, reports filed at a later date may be presented to the public hearing and subsequently acted upon by the Electrical Committee.

Technical Subcommittees:

Technical subcommittees shall be appointed by the Chairman of the Electrical Committee, either as judged necessary by him or by direction of the Electrical Committee, or upon the recommendation of a standing committee.

Technical subcommittees shall be composed either of members of the Electrical Committee or of other persons, or both.

The chairmen of technical subcommittees shall be designated by the Chairman of the Electrical Committee.

Topic or topics to be dealt with by each technical subcommittee shall in general be designated by the Chairman of the Electrical Committee, but other related topics or phases may be acted upon and reported.

Upon the appointment of each technical subcommittee, its chairman shall be advised with which standing committee he shall confer and to which he shall report. He shall as promptly as possible advise both the members of his subcommittee and of the designated standing committee of the nature and scope of the subjects to be acted upon and invite their active cooperation.

Advisory Committee:

There shall be an Advisory Committee consisting of the Chairman and Secretary of the Electrical Committee, and the Chairman of the standing committees.

The Advisory Committee shall hold a meeting shortly before the public hearing, at which it shall determine which committee reports and other recommendations and suggestions received too late for publication shall be presented for consideration at the public hearing and for subsequent action by the Electrical Committee.

Procedure for Public Hearings:

The meetings of the Electrical Committee, for revision of the National Electrical Code, will ordinarily be held between the 1st and the 15th of March every other year.

Prior to a meeting of the Electrical Committee, at which final action is to be taken on the next edition of the National Electrical Code, a public hearing shall be held.

In advance of a public hearing the Secretary shall prepare and issue a Bulletin of the subjects to be considered. This Bulletin shall contain reports and recommendations from the standing committees and from the Electrical Committee as a whole.

Reports, recommendations, or suggestions received from standing committees or from other sources, too late for inclusion in the Bulletin may be considered at the public hearing upon the recommendation of the Advisory Committee.

Votes taken at a public hearing shall be recorded as expressing the sense of the meeting.

After the public hearing the Electrical Committee will consider and act on all reports, recommendations, and suggestions for the next revision of the Code.

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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Shadows and Straws

THE WORK OF THE POST-WAR COMMITTEE on Architectural Practice has aroused an interest and enthusiasm among the architects of the United States which I think it is safe to say has never been exceeded. In answer to its circular letters and printed statements the committee has received a flood of correspondence covering every phase of its suggested inquiry. Comment and opinion have been freely expressed in chapter meetings and other groups. The work is gathering momentum and importance as every day goes by. The movement is extending to other lands. What does it mean? What will it accomplish? Where will it end?

I call to mind many types of architects. They range over every degree of competence and incompetence. They cover every kind of men, from those who skim the thin ice of sharp practice to those who hold their professional honor as sacred as the Holy Grail. There are architects who worship architecture as the faithful worship their God. They are joyous with its joys; they suffer with its sorrows. They are happy in the great architecture that has been, but they grieve over what is and what might be if architecture today were better appreciated by men.

At the other end of the scale are those to whom architecture is a business to be tested in the crucible of profit and success. They may or may not care a great deal for beauty; they may or may not have a high idea of the professional relation. Their creed—and I do not quarrel with it—is to get as much business and make as much profit as possible. Some of them actually do excellent work; some of them do not.

The architect is not a standardized human

being. He is as various as men are different. Each is an entity. Outwardly, one may resemble another, but study any one a little and you will soon see that he is not like any other. His tastes are different. He likes Gothic, which leaves you cold. Or he hates Renaissance, which you cannot understand. He is interested in design, and leaves the rest to somebody else. Or, he goes in for construction, studies materials, reads constantly to improve his knowledge, and believes that design must be subordinate to structural progress and human needs. There was never a profession that put forth more types of leaves, thorns, and flowers than that of architecture. It agrees about nothing. There is not a single question concerning either the esthetics or the economics of architecture upon which there is anything approaching a universal agreement. How, then, can the Post-War Committee achieve anything, or get anywhere, or prove the usefulness of the effort it is making? Let us put the question into practical form. Let us put it, even, into the plain, hard, cold, most practical form. Let us translate it into the commonest and most vulgar vernacular and ask: "What does the Post-War Committee mean to me?"

THAT IS A QUESTION that every architect can ask. To those at one end of the scale the question will mean: "Are we going to raise the standard of architecture so that the world in which I have to live will not sicken me with its ugliness?" To those at the other end it will mean: "Shall I be able to make more money, or at least to make a living?" To those in between, who represent every shade of opinion and desire, of selfishness and unselfishness, of interest

and no interest, it will mean a thousand different things, just as their lives mean a thousand different things.

But each and every man who asks the question, no matter what he seeks for an answer, will recognize, if he has any intelligence, that he has a great deal in common with every other inquirer. Each will recognize that a rising architectural appreciation will be very likely to increase the earnings of architects. The two go hand in hand. You cannot achieve the one without achieving the other, but in order to avoid wandering off into esthetics, let's stick to the practical.

Let us begin at the beginning; let us assume that building is an industry. No architect will deny that. Nor will he deny that it is an industry which touches almost all other industries. Therefore, architecture cannot be considered as an industrial problem by itself; it is a part of one great industrial problem. Every finished building represents a contribution from untold industries. Each of these industries has its own peculiar problem, and yet each, too, is a part of the whole problem. This is easy to understand if you imagine for a moment that the coal supply of the United States were suddenly cut off. What would happen? Almost all industries would cease. They would have no source of motive power, for practically all industry today is dependent upon coal. Every finished building represents a consumption of coal which might be calculated. Therefore, the building industry is very closely related to coal mining; if you could not get coal you could not very well build without changing our whole method of building. But the same thing is true of iron, out of which we make steel. It is also true of all clay products, and, to a lesser degree, it is true of every other product. This is the physical side of the building industry.

WHAT IS THE HUMAN SIDE? The building industry depends upon men. All the coal, iron, clay, marble, copper and other deposits in the world are utterly useless without men. The architect looks at his finished building, or he looks at his proposed building, and says: "For materials, so much; for labor, so much." The man who supplies the materials looks at his finished product and says the same thing: "Materials, so much; labor, so much." In the

end the building is nothing but labor. Without human hands all the gold in the world could not erect that building. The architect's computation of labor and materials is an illusion and yet it is the practical way in which he approaches his calculations of cost: "Materials, so much; labor, so much." But in reality it is all what we now call labor. We have forgotten that every building is the product of the mind of man. Every material that goes into it is produced by mind working on materials, yet today we say: "Materials, so much; labor, so much." Which means that we think of the labor not as men, or as mind, but as a kind of material to be bought like any other commodity.

Did you ever stop to think, indulgent reader, that all the great architecture of the past—temples, cathedrals, public buildings—was not built as an investment to earn dividends? These architectural shrines at which we now worship did not represent so many shares of stock, the holders of which demanded a regular yearly dividend. They represented something else. They represented not an investment, but an expenditure—money thrown away, if you like—because those buildings represented the contributions of men who asked for no dividends except the enrichment of their spiritual lives. On the contrary almost all modern building represents an investment which has to earn money. Between that kind of building and the temples of Greece or the cathedrals of France lies a great chasm. In that chasm we have buried the thing which once made architecture real. Today we build for investment; we build for dividends; we build for profits; we build for earnings. Even our great public buildings are financed, usually, by bond issues, so that when a building is ultimately paid for it is likely to have been paid for twice. By this process we eventually spend twice as much money as for a building that should be paid for as the cathedrals were paid for, but there is a vast difference in the spirit of our squandering.

BUT, RETURNING TO THE HUMAN SIDE, what do we find? The traditions of workmen in the building industry have been lost. The invention of machinery has enslaved both the bodies and the minds of men. Actually, if we look abroad and think of all the thousands and millions of machines that are being run by men, we can

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visualize the picture of one giant colossal machine of which all these little machines are merely the tiny parts. This giant machine is known everywhere as industrialism. It is the industrial age. We have won unexpected secrets from nature. We have devised many and marvelous things, but let us stop for a moment and ask: What have we done to mankind in the process? That is the one great question before the whole world today. Is industry to go on until it devours us all, or are we to make it our slave and not our master? Those who own it and control it are asking the question. Those who work under the wage system are asking the question too. All Europe is a seething ferment. England is passing through an industrial crisis, the result of which no man can foresee. In this crisis men say that the future of industry is locked up, or that the future of the nation is locked up. The real truth is that, in this crisis, the future of the western world is locked up, and sealed in the same cell is the future of architecture.

Now I am perfectly aware that this does not answer any practical question; but I am equally convinced that it is as near the answer as any man can come. Politically, our nation has been drawn into the war arena of the world, and there it will have to remain. It is only a question of time when we shall see that, just as we could not escape the war in arms, neither can we escape the social and economic war of the world. We cannot fly from it if we would. Destiny has taken us by the throat, now, and we must respond. Life everywhere is steadily coursing toward the same sea, and can no more be held back than rivers can be kept from the ocean.

"What," I can hear my practical friend saying, "has the work of the Post-War Committee to do with all this? It is all very well to talk about, but I am not particularly interested in what is happening to the rest of the world. What I want to know is: How can the architect make a living? Most of them appear not to have been doing that for some time. All of this world stuff sounds very nice and maybe it is true—I don't know; but what I want you to tell me is whether the work of the Post-War Committee on Architectural Practice is going to make more people want good architecture. I tell you that in the town where I live it is pretty hard work to make both ends meet. There has not

been much building during the war, but there is going to be a lot of building done in the near future, apparently. A great many people want to do that building, but what I want is my share. Now mind you, I have a good, big interest in architecture. I like to see things done right. I like to see buildings well built. I believe that architects can do this better than anybody else, but the fact is that architects get only a small share of building work. What I want to know is, how can they get more?"

YES, YES, MY FRIEND, this is the plain, hard, cold, practical question, and you do well to keep me nailed to it. But, just one moment. The problem of architecture never can be solved until the problem of industry is solved. The architectural problem, involved as it is in every other problem, is one of relationships. It is related to every human activity known to man. Everything enters into it. It begins with the little child who enters a school for the first time. It ramifies through every life, touching everybody until death. Are we making it more possible for good architecture to exist, or are we making it more impossible for the art of right building to have a larger place in the world? This is really the question which is before the Post-War Committee. It is only another form of the one great question before the whole world today.

The Committee has formulated a program which will convince every careful reader that the architectural profession is in relation with every human being at one point or another. It is this problem of relationships which must be solved. If the profession has the courage to recognize this, it can perform a great service. As a profession it possesses both the necessary vision and equipment in a large degree. Architecture is based upon the right doing of the work undertaken in its name. There can be no right doing without right relationship. This means that the architect must be in right relationship with client, contractor, subcontractor, and all those who put their labor into his building. He must also be in right relationship with all those who have put their labor into the materials that go into each building. Each of the others must be rightly related, as to function and purpose, to each other. If we have great faith in humanity, we shall believe that some time this right relationship will be achieved. If we lack faith, we

shall doubt its final realization. But no matter what degree of faith we may have, the struggle of the world is to attain a better human relationship. That is, in reality, what the profession has been trying to do. That is why the Institute has prepared a standard form of contract, for example. In that contract it seeks a better relationship than existed before. That is why the Institute was organized: it sought a better relationship among the members of the profession.

THE POST-WAR COMMITTEE grew out of an opportunity created by war. In reality there should always be a Post-War Committee in the architectural profession. Its name should change as time goes on, but always there must be some vital, energetic group constantly seeking to make not only the profession, but all the activities of men, count as progress toward human betterment. The problem is a spiritual one, as Christ foresaw. We have tried to solve it in a material sense, and few are content with the result.

All organizations are beset by maladies. The germs are introduced the moment an organization is created. Two of the most destructive of these germs are apathy and selfish interest. Almost the worst thing that can happen to an idea is to institutionalize it, because the institution generally ends, sooner or later, in becoming more important than the idea. One of the best things that can happen to any vocation is to organize it; but, on the other hand, if the wrong germs get it, it may also be the worst thing for the vocation. Remember that the history of organizations records many more failures than successes. Failures grow from the germs I have mentioned—successes come from energy and unselfishness.

"Yes, yes, I know," says the plain, hard, cold, practical man, "but I would like again, and for the last time, to call your long-winded attention to the fact that I asked you a very simple question, and, so far as I can see with my limited intelligence, I have not discovered anything in what you say that looks like an answer. Now if you could climb down off your philosophical perch and get your feet on the ground and talk to me in simple language and tell me how the work of the Post-War Committee is going to fill my office with work, you are certainly the man I am looking for. I may say that I have been

looking for you for a long time, but I may also say that if you haven't the answer to my question, I am not interested in you and I am going to bid you a quick farewell. I have my living to make and I have no time to study philosophy. I am a practical man. I know the building problem from A to Z. I know human nature in the same way. What I want to know is, how you can mix up human nature and the building problem and provide more jobs for architects. If you have a prescription for that, you are the doctor for me."

Now, of course, it is easy to see that the time is coming when I cannot hide behind philosophy, moral science, or even Christianity and continue this conversation with this type of architect. I shall have to refer him to the glib pens of other writers. But I believe that the work of the Post-War Committee will come as near answering his question as any effort can come. It will accomplish this, I believe, by more and more drawing the attention of the profession to all the factors in the problem, by weighing all the evidence that is fast coming to hand. When it has finished this almost terrifying task, the Post-War Committee will present some straightforward conclusions. It is not my purpose to prophesy what those conclusions will be, but I venture the assertion that on these conclusions may be based a program for giving architecture a bigger place in the world; and I am quite as willing to make the corresponding assertion that when architecture has won that bigger place, architects will be better able to earn a living.

IN THIS NUMBER of the Journal we publish an article by Mr. Arthur J. Penty, an English architect, on the great National Guilds movement which has made such remarkable progress in England. Mr. Penty asks, for example: Why not a guild in the building industry? The idea will appeal with peculiar force to all those who remember the incomparable workmanship that came out of the guild organizations of the Middle Ages; it will be rejected by many on the ground that we cannot go backward. But the guilds offer a solution of the industrial problem in which I have great faith. They are founded, not upon material values, but upon human values. They mean the restoration of the creative impulse in industry, and that means giving human life a chance to develop. I am for any movement

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which aims in that direction, because I have the conviction that unless we reconstruct our economic system and put human values first and not second, we shall go over the precipice where other civilizations have gone.

EDUCATION IS THE ANSWER to our question, say many, but for what purpose should we educate? Today nobody knows. The air is full of theories as to how education should be conducted, but nobody can tell us for what we should educate. The answer seems very simple to me. We should try to create a condition whereby every human being would have a chance to develop the life that is unique within him, to liberate his full contribution to the use and service of mankind. When we stop trying to make him look and think and talk like all the other parrots, we shall have taken a step forward.

The report of the Committee on Education, which appears elsewhere, is an effort to develop a philosophy of architectural education. You cannot do anything without first building a philosophy, and there has never been any philosophy on this subject. How could there be when the accepted belief was that we should make all architects by the same system and teach them to follow the same precedent? Some geniuses have escaped from this paralysis of the intelligence imposed upon them by the good old academicians, but far too many have succumbed and surrounded us with a museum collection of antiquities. One travels many a weary mile before meeting with a piece of architecture that thrills with the throb of a living thing, fresh from the hand of a creator and singing aloud. There are miles and miles, endless miles, of the dead stuff.

Yes, I think that one thing the whole profession will be nearly agreed upon will be the verdict of the Post-War Committee on the subject of education. I do not know what it will be, but I think it will receive as nearly a unanimous approval as the profession has ever given.

WHEN WE TOUCH THE ECONOMICS of the building industry, we must deal with land and with money, either in the shape of cash or of credit. It is strange that architects have paid so little attention to the use of land, and yet building is, first and foremost, a problem of using land. You cannot build without some

land. Yet we know less about the use of land today than many civilizations in the past. Land with us has not been considered as a thing to be used for the benefit of the people as a whole, but for the benefit of the individual. Around that idea we have built our ugly communities and now we are face to face with the result. How in the world can the building problem be satisfactorily solved until we solve the land problem?

If you have chanced to read Mr. Galsworthy's "Another Sheaf," you know how intelligent Englishmen are looking at the use of land in the future of England—a future which hangs suspended, at this moment, by the thread of life so weakened by a century of industrial degradation that no one knows how much longer it will bear the strain. Says Mr. Galsworthy:

"The impression I get, in our big towns, is most peculiar—considering that we are a free people. The faces and forms have a look of being possessed. To express my meaning exactly is difficult. There is a dulled and driven look and yet a general expression of 'Keep smiling. Are we down-hearted? No.' It is as if people were all being forced along by a huge invisible hand at the back of their necks, whose presence they resent yet are trying to make the best of because they cannot tell whence it comes. . . . All round them, by day, by night, stretches the huge, grey, grimy waste of streets, factory walls, chimneys, murky canals, chapels, public-houses, hoardings, posters, butchers' shops—a waste where nothing beautiful exists save a pretty cat or pigeon, a blue sky, perhaps, and a few trees and open spaces. . . . But the modern industrial English town is a sort of inferno where people dwell with a marvelous philosophy. What would you have? They have never seen any way out of it."

Do you recognize any one of our cities in this picture? Have you ever been in a subway station in New York at six o'clock in the evening? Have you tried to cross a street in the Chicago loop at the same time? Did you ever watch the workers emerging from the factories in a small town? Do you know Pittsburgh, or East St. Louis, or Bayonne, or a thousand other places just like them? How in the world can there be developed any architectural appreciation under such conditions, and what can architecture offer to these degraded and dehumanized beings until it can solve the problem of the right use of land?

ENGLISHMEN ARE WRITING STRONGLY in these times. They feel strongly. They have suffered acutely. They know what war means, and out of their knowledge they are trying to save England from the consequences of her century of industrialism. They accuse nobody. They point out the system. Penty says, in "Old Worlds for New": "Architecture is incompatible with industrialism, and all efforts to graft it on to it must fail in the end." Think it over.

The bright side of the picture is not completely obscured. I quote from an editorial in the *Nation* (London), in which, after narrating the reckless waste of life and material which has resulted from the development of industrialism, it asks: "Does anyone imagine that mankind is going to sit down permanently under this rule of blind chance? . . . Taine has described how France, almost broken in spirit by the immense catastrophe of 1870, turned to science for restoration and healing; and in the work of such men as Pasteur, recovered its economic freedom and prosperity. It was estimated that the result of three of Pasteur's discoveries was equivalent to the cost of the whole indemnity to Germany. Europe is shattered by a far greater cataclysm.

But mankind is not destined permanently to inhabit ruins. Science has nothing occult about it. It represents the applied intelligence of man. Earth still has secrets, as Jefferies declared, the discovery of which may set man to rival the favored immortals. One need not anticipate more distant developments: the economic use of solar engines by concentration of the sun's rays; the ploughing of land by high explosives; the development of the method of fixing the nitrogen of the air; the synthetic production of food in the laboratory or workshop. In many of such problems we seem almost on the brink of solution. None of them presents difficulties more complex than those science has already solved. The cry of faith is that a race which has produced a Shakespeare cannot perish from the earth. The cry of reason is that a race which has discovered—in less than a generation—the aeroplane, wireless telegraphy, the properties of radium, of coal-tar products, can defy all the brute force of matter, classes, and time. To go back to wrangle, under the old conditions, is the way to destruction. The way of hope is the creation of a New Order through man's amazing and unconquerable mind."—C. H. W.

Towards a National Building Guild*

By ARTHUR J. PENTY

NO industry has undergone a greater transformation since 1914 than the building trade. After an almost total collapse following the outbreak of war, when private building came to an end, the building trade got a new lease of life in the building of munition towns and factories; and in working thus under the direction of the Office of Works, other Government departments and public authorities, a new orientation has been created

which, after the war, may result in the building trade becoming entirely an adjunct of bureaucracy, an arrangement that now threatens to persist for an indefinite period.

Although, from an architectural point of view, this concentration of the direction of building operations in the hands of official departments is an evil of the first magnitude, in that official conditions are the worst conceivable for the production of design of any kind,

*Although written from the standpoint of an English architect and based on the war experiences of England in the building industry, Mr. Penty's article has its clear message to the profession in America. By way of explanation it may be observed that the tendency towards bureaucracy in England, in so far as public building work is concerned, is a matter of the gravest concern at the present time to the architectural profession. It must be further considered that England, where this article was written, is in the midst of a momentous crisis. Powerful unions of workers are demanding nationalisation of mines and trans-

port, and a share in the control of their administration and operation, and their proposals are not being ignored by the Government. However one may object, either through prejudice or reasoned aversion, to these principles, the movement must be studied as a reflection of a great post-war unrest. It is for this reason that we offer Mr. Penty's suggestions to American architectural circles. Mr. Penty's writings on the Guild movement in England, particularly his book, "Old Worlds for New," are known to many American readers.—EDITOR.

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it may nevertheless prove to be a blessing in disguise. For, as this arrangement is not likely to please anybody except the few officials who administer these huge architectural departments and the few building trade employers who make a profit out of the contracts they secure, it may tend to promote a better understanding between architects and craftsmen of the building trades. For, since a common fate has befallen them, inasmuch as both must see in the growth of these huge departments their own enslavement, it may be possible to unite them in a common effort to overthrow this instrument of tyranny.

Let us pause for a moment to consider the nature of this tyranny. From the point of view of the architect it means that he is graded permanently in a servile position; it means that he is enslaved by the engineer and surveyor who will treat him as an inferior; for it should be known that in public architectural departments architects are only to be found in the lower grades of the service. The heads of these departments may, at times, be architects in name, but they will always be found to be engineers or surveyors in fact, for, as all these departments have engineers' and surveyors' traditions behind them, no one is eligible for the higher positions who has had an architectural training. The engineer and surveyor have their legitimate place, but they should not be allowed to usurp the architectural function* which they are utterly unqualified to fulfil, not only by training but by temperament, for the faculty that makes a good architect is different from the one that makes a good engineer or surveyor.

The passion for organisation in these departments is such that what is called administrative ability (which often is only a mask for incompetence), is exalted over creative gifts which are much rarer and more precious. You have to go a long way in such places as the Office of Works before you come upon an architect—that is, a man who actually designs buildings. Over him there will be five or six layers of officials who, generally speaking, will be incapable of designing anything decent themselves but will be privileged to murder the work of men who can design. Everything will be done according to some official standard specification,

*When Lord Curzon was in India he ran up against this phenomenon. He found that Government buildings were being designed by engineers instead of architects and sent to England for a supply of architects. The result has been a great improvement of Government architecture in India.

written originally by some engineer who knew something, perhaps, about the more utilitarian aspect of building but had neither taste nor understanding of its amenities; and this specification will be handed down as unalterable as an Act of Parliament itself, for responsibility is so divided and subdivided in official departments that change is well-nigh impossible.

The fundamental falsity of such a method of organisation may be tested by bringing it into contact with a piece of reality. What, we may ask, would the Office of Works do with Inigo Jones? Would they put him at the head of the department? In that case he would have no opportunity to use his gifts of design, as all his time would be taken up with the details of administration. If he were to design, he would not only have to be content with a quite subordinate position, but would have to consent to the revision of his work by officials who neither understood nor cared anything about questions of design. We know how the Office of Works would meet this problem. It would fail to discover him.

Such is the grievance of the architect. Let us now turn to that of the workman, which, to some extent, is familiar. He is permanently graded in a servile position and he knows what it is to carry out instructions of men who do not know their business. He is, moreover, at the mercy of chance. His labour is bought as a commodity and he is kept from sinking lower only because he has a trade union behind him. The wage system is fastened upon him. Whatever may be his abilities, he can have no hope of rising under this system—not even to the position of a foreman—for, with demand contracted, there can be no openings. He is permanently enslaved to the contractor, and his position is in some respects even worse than that of the feudal serf, for mere security is denied him.

What is to be done? The workers in the building trades must make common cause with the architects to overthrow this tyranny by organising themselves into a National Building Guild. Thus and thus only could they acquire a definite status and ensure that their labour would no longer be treated as a commodity; for they would be able to demand, and to exercise competently where obtained, the full control of their industry.

But what is a National Guild? It is an organisation possessing an effective monopoly of labour in an industry to which the State delegates the complete control (of that industry) in its function of supplying the community with its particular goods or services. Its keynote is responsibility, which with the abolition of the profiteering basis of industry, becomes for the first time a genuine possibility for the workers. A National Building Guild, therefore, would be completely responsible for the erection and maintenance in repair of all buildings whether required by individuals, other guilds, or public bodies. It would regulate apprentices, provide such technical education as was required, and execute work on a basis of schedule rates fixed by arrangements with representatives of the State or local authorities. It would guarantee the quality of the work while undertaking, and perhaps extending, such responsibilities of a mutual aid character as are now undertaken by a trade union.

Labour monopoly must not be interpreted in a narrow sense. A National Guild, to be a success, would have to include not only those who labour with their hands but the salariat and architects in addition, for it would only be by including all classes of labour required in the erection of buildings that it could make its monopoly effective. Instead, therefore, of four classes of men, architects, contractors, salariat, and workers pursuing their separate interests, which, under the present individualistic system are necessarily to some extent opposed, they would be merged together to coöperate for a common end.* This is no impossible ideal. Such coöperation among the various workers in the building trades existed under the guild in the Middle Ages, and the architecture of mediæval Europe remains today a permanent monument to the guild ideal.

But, it will be said, if it be true that men can only coöperate successfully when the units of organisation are sufficiently small that men may be personally well known to each other, why not seek to organise local guilds instead of a national one? The answer to this is that

*The proposal to include contractors in a National Guild may occasion surprise in some quarters. But it should be understood that building trade employers, though they have not escaped the influences of their age, are more akin to the mediæval master builders than employers in other industries, in that they do not habitually sacrifice everything to profits; most of them are practical men and a place could be found for them in a National Guild. There is a lot of give and take in the building trade.

though the local guild must remain the working unit as in the Middle Ages, it is, nevertheless, expedient in order to adapt guilds to the circumstances of the age, to federate all the local guilds into a national one, at the start at any rate. Two considerations bring us to this conclusion: First, because as government is centralised it is necessary to have some organisation which can meet it on something like equal terms, and second, because, as architectural talent has become largely congregated in populous centres, if architects are to be distributed among the local guilds, it becomes necessary to have some central organisation to act as a clearing-house, as it were. Otherwise the immediate organisation of local guilds would result in certain guilds being overburdened with architectural talent, while others would suffer from a dearth of it.

Coming to the problem of ways and means of organising the building industry on a guild basis, it may be said that the Government Housing scheme after the war will provide a unique opportunity for the introduction of the desired change. For, as private patrons of building will be a negligible quantity, the workers would have only the Government to deal with. The National Housing Scheme should be managed and carried into execution by a National Building Guild, and, if the workers have an eye to their interests, they will not let such an opportunity pass.

Though architects will need to be associated with the workers in the conduct of a National Building Guild, whether such a scheme is to be realised or not depends primarily on the initiative of the workers. As a preliminary the unions should set to work without delay to put their own house in order and to bring about those reforms in trade union organisation necessary to prepare them to function in guilds. (I am inclined to think that the principle of organisation should be for building craft unions to be organised into local federations or industrial unions, while the national organisation should consist of a federation of these local federations.)

When this preliminary work has been accomplished, the workers should associate with themselves such architects as have worked for a revival of architecture on a basis of craftsmanship and who are in sympathy with the

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guild ideal as distinct from those whose attitude has been purely professional. They should then present an ultimatum to the Government, demanding that the design and execution of the Housing Scheme and other Government work should be handed over to them as the representatives of a National Building Guild. It would increase the effectiveness of this demand if it were accompanied by a protest against the Housing Scheme as it stands today, and if the lines on which it is proposed that the scheme should be carried out were given. They must oppose standardised houses as an expedient and makeshift that not only is detrimental to the craft of building but is unsound in its psychological and economic reactions.

Let us consider these points separately, taking the latter first. The standardised cottage scheme is economically unsound because parsimony in expenditure tends to upset the balance between demand and supply. We shall never have a stable social order so long as the modern aim of expenditure is to increase the volume of surplus wealth which is not consumed, and which thus seeks an outlet in foreign investments, corrupts our foreign policy, and embroils us in international wars. It is no use closing our eyes to these things. There is a definite connection between our deliberate parsimonious expenditure on the real things that matter and our compulsory, involuntary expenditure on war. One is involved in the other. The present tendency toward social disruption must continue as long as we can think only of expenditure in the terms of investments. A community with a healthy social instinct would seek to adjust means to ends and not ends to means, as ours does.

The importance of this aspect of the building trade problem cannot be too strongly stressed. To build standard houses by depressing taste would tend to depress demand. On the contrary, increased expenditure, if accompanied by a raising of the standard of taste in building, would react to increase demand. If, for instance, the people of Manchester or Birmingham could be awakened to the ugliness of their surroundings, they would, before long, desire to rebuild them. And if the desire were strong enough, nothing would stand in their way—not even their worship of five per cent.

Then, this standardised house scheme is

detrimental to the craft of building because it strikes at the root of architectural development. It is no use to nurture a tree at the head if it is dying at the roots. And it will be no use to attempt the reviving of architecture in its higher branches if ordinary building is to be left to the tender mercies of the local surveyors, into whose hands the execution of the Housing Scheme is to be entrusted, according to the proposals of the Joint Committee on Labour Problems after the war. The circumstance that the designs for the standardised types will be designed by architects and chosen by competition will perhaps prevent the worst from happening. But, at the best, it can only be a miserable performance. For, whatever may be said against the architect of today, and his sins are many, he is yet a jewel compared with the surveyor whose understanding ends with utility. The architect does make an attempt to grapple with a most difficult and complex problem; the surveyor makes no attempt at all. On the contrary, his mind is of the official type, he is content to take things as he finds them. That architecture and beauty have any connection with plan and management of detail—a matter of proportion and the discriminating use of materials—would never occur to him. In his view, beauty is something to be added if funds will allow it. Therefore, as these cottages are to be cheap, beauty need not be considered. No recommendation of the Local Government Board, that due regard should be paid to the appearance of the houses, can make any difference to him. For he will not understand it. That is a bit of bed-rock truth to be reckoned with. The giving over of all cottage building into the hands of local surveyors, therefore, is a blow at the very heart of architectural development, for the really serious architectural problem is how the mass of ordinary building may be well done, since, unless ordinary buildings are properly designed, architecture remains without a base, and a gradual deterioration of the design in all classes of building must take place. The revival which promised so much will have failed.

It is to the interest of the workers to insist that this, the craft aspect of the housing problem, should be treated with respect. It would be for them a trump card, because it would give confidence. Every man who takes an interest in

the welfare of the arts has been disgusted with the way the Government has trifled with his interests, and it would be a presage of the spirit which would animate the guilds in the future if the workers would take a determined stand on this issue. It would demonstrate to all and sundry that the guild movement is not only a demand for economic justice, but a demand for the elementary right of every man to take an interest in his work—a right which is not to be surrendered to any temporary or imaginary economic convenience. For such a surrender would prove to be an insuperable obstacle to craft development and defeat the aims of a Building Trades Guild, not the least of which is the recovery, for the workers, of some of that spontaneity and joy of creation which was the heritage of the mediæval craftsman.

It is well that we should realise all that this means. The mediæval craftsman was not content to understand merely the practical side of building, but he was capable of exercising the arts of design which today are the monopoly of the architect. Only, generally speaking, he did it much better, for he was in possession of something which the architect of today usually lacks—practical skill in craftsmanship. In proportion as members of the building trades become competent in the arts of design, the need of architecture as a separate profession would tend, if not to disappear, to be limited in its functions—a change which would be all to the good, for the architect of today is in an impossible position. Too much is demanded of him. He is not only expected to understand those things which appertain to his legitimate function, but, owing to the decline of craftsmanship and the rise of the contract system, he is called upon to direct and improvise the details of all the crafts, with the result that only very exceptional men are equal to the task imposed upon them. The qualifications required by an architect in Wren's days were simplicity itself compared with those asked of the architect today. For the architect could then count upon the assistance and coöperation of the building trades, which in these days is entirely absent. If an architect chose to supply details, it was to satisfy his own personal fastidiousness in such matters, not because the building craftsmen were incapable

of working without them. The mason, carpenter, and other building craftsmen would supply the details of the mouldings and ornaments which they executed, the architect being responsible only for the general arrangement. Accordingly, we find that when Sir Christopher Wren sent his small-scale drawings and directions for the library at Trinity College, Cambridge, he sent a letter of apology for presuming to send full-size details, for he knew he was trespassing on the preserves of the masons. He wrote: "I suppose you have good masons; however, I would willingly take further pains to give all the mouldings in great detail; we are scrupulous in small matters, and you must pardon us—the architects are as great pedants as critics and heralds."

In an effort of the building trades to recover the traditional skill of the mediæval craftsman, the workers could count upon the support of the best elements in the architectural profession. For many years it has been recognised among such architects that a widespread revival of architecture would only be possible when the workers, freed from the bondage of wavery, could devote themselves to the task of raising the standard of craftsmanship by becoming skilled in the arts of design. Few men, perhaps, have the talent of design in a high degree, but most men have it up to a certain point as the beauty of ordinary building in the past clearly shows. All they need to recover that faculty is continuous association with such architects as today have the gift. Under the normal conditions of the past it was no more difficult for the craftsman to learn to design than for the child to learn to speak. The child learns to speak less by conscious effort than by association with people who know how. It is the same with design. A knowledge of it is picked up by working with others who understand it. We have a communal tradition of speech today. The association of workers and architects in a National Building Guild would soon give us a communal tradition of design. In the course of a generation the need of the architect, as he exists today, would disappear. His function would be merged with that of the more highly skilled workers. The democratisation of architecture would have become an accomplished fact.

Post-War Committee on Architectural Practice

THE coming Convention at Nashville will be given over very largely to a discussion of the preliminary programme of the Post-War Committee, copies of which have been widely distributed to the architects of the United States. There will be four sessions of the Convention devoted to this work.

The first of these will be presided over by Mr. Medary, (Member Executive Council), and will include the following subdivisions of the programme:* (a) Extension of the Service That the Architect May Render; (b) The Architect as a Citizen; (c) The Status of the Architect: Art, Profession, or Business.

The second session will be presided over by Mr. Dunning, (Chairman Executive Council), and will devote itself to the following: (d) Responsibility of the Architect; (e) Percentage Remuneration; (f) Supervision of Construction; (g) The Need for a More Comprehensive Service; (h) The Contractor's Function; (i) Organized Industry; (j) Standardization of Building Products.

The third session, presided over by Mr. Kohn, (Member Executive Council), will include: (k) Architectural Societies; (l) Competitions.

Mr. F. L. Ackerman, (Chairman Institute Committee on Education and Member of the Post-War Committee), will preside over the fourth session which will deal with Education and Registration.

Immediately preceding the Convention there will be a full meeting of the Post-War Committee at which the work already done will be discussed and a general statement prepared for the Convention. Immediately after the Convention it is planned to hold another meeting of the Committee at which the programme for the future will be carefully considered with a view to extending the inquiry and arranging for the appointment of various subcommittees, and the delegation to them of definite studies along definite lines.

Up to the present time various means have been employed by the chapters for taking up the

*The letters in parentheses refer to the topical subdivisions in the programme previously distributed by the Post-War Committee. A supply of these will be available at the Convention and copies may be obtained by addressing the Post-War Committee on Architectural Practice, 1741 New York Avenue, Washington, D. C.

work. Some have appointed a general committee, while others (and this seems to be the better way), have appointed subcommittees as suggested by the topical subdivisions in the programme of the Committee. The Philadelphia Chapter, for example, is now holding weekly meetings to discuss the Post-War Committee programme. Realizing the nature of the material and that the opportunity is offered for a discussion that might be difficult to keep confined to the subject, the Chapter has followed the plan of condensing the subject, in each case, in the form of a resolution. These resolutions have been considered and phrased to be suggestive or provocative of discussion, and the plan has proved very effective. This will also enable the Chapter to present a synthesis of opinion, in more or less concrete shape, to the Post-War Committee, which will use such opinions as a basis for gradually narrowing the discussion to what the consensus of opinion and fact indicate as the fundamental questions at issue. With the appointment of the subcommittees of the Post-War Committee, it will probably be found desirable to have the chapter subcommittees coincide with these, so that the work will harmonize and permit the easiest summing up. A complete announcement of the programme for the future will appear very soon, possibly in the next issue of the Journal.

The discussions have already brought out many interesting and divergent points of view, a few of which are here presented.

Payment for Services

(An opinion from a New York Chapter discussion)

At a meeting of the New York Chapter on March 22, a discussion of the percentage remuneration, brought out the following opinions:

There are several methods of payment that may be considered: (1) Whereby costs in the office are charged to the client plus a percentage of that cost for overhead and a fixed honorarium for the architect. (2) The same scheme, only substituting a percentage of the cost of the building as the honorarium for the architect. (3) The client to pay the actual drafting costs plus a fixed sum which includes both the honorarium for the architect and his overhead. In this case the architect gambles as to his overhead. (4) The client pays the office costs plus a certain percentage of that office cost to cover the overhead, and then an

Independent Study and Report
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WASHINGTON STATE CHAPTER
 American Institute of Architects
 BY THE
CHAPTER'S SPECIAL POST-WAR COMMITTEE
 W. R. B. WILLCOX, *Chairman*

Unanimously Recommended to the
POST-WAR COMMITTEE ON PROFESSIONAL PRACTICE
 As a program for further investigation, by the
WASHINGTON STATE CHAPTER
 March 28, 1919

BUILDING PROJECT
 Condition precedent to relations (A), (B), (C)

STRUCTURE

Architectural Problem

PLAN
 DESIGN
 SPECIFICATION
 SUPERVISION

Professional Problem

ESTIMATES
 CONTRACTS
 PAYMENTS
 ECONOMIES
 DEPRECIATION
 INTEREST
 INSURANCE
 TAXATION
 COST
 ARCHITECT'S FEE

Architectural Problem

ADAPTABILITY
 SURROUNDINGS
 EXPOSURE
 DRAINAGE
 TOPOGRAPHY

SITE

Business Problem

AVAILABILITY
 OWNERSHIP
 LEASEHOLD
 COST
 INTEREST
 ASSESSMENT
 TAXATION
 FINANCES

The Architect's Province or Responsibility
 Affected by

The Client's (i.e. the Public's) Province or Responsibility
 Affected and determined by

A. Relation of the Public to the Architect
 Sought to be promoted by the Education of

These are the relations proposed by the Executive Council of the Post-War Committee for consideration

B. Relation of the Architect to Building Industries

C. Relation of the A. I. A. to the Profession

D. Relation of Architecture to Life
 (A Building Project—the Architect's Responsibility)
 Which suggests the following

Art Appreciation By Means of	EXHIBITIONS	Architectural Club. Chapter Traveling. Real Estate Association More Homes Bureau.
	LECTURES	Y. M. C. A. City Plan Campaign. Art Society. More Homes Bureau.
	PUBLICITY	Illustrations in Papers and Magazines. Literature on Art and Architecture. City Plan Campaign. Chapter's Low-Cost House Campaign. More Homes Campaign. Farmhouse Plans—Minnesota State Art Asso.
	CITIZEN SERVICE	Municipal League Committee Work. Municipal Plans Commission. Real Estate Association.
	PUBLIC WORK	City Architect. City Projects, Parks, Streets, Libraries, etc.
Architect's Function By Means of	THE JOURNAL	Articles and Illustrations. Complimentary Subscriptions.
	EXHIBITION	Working Drawings and Specifications. Building Materials.
	ADVERTISING	Author's Name on Executed Work. Literature and Lectures. Architect's Name on Work in Process. Paid Newspapers and Magazine. Personal Contact with Clients.
	DEMONSTRATIONS	Chapter's Free Consultation on Alteration. Advisory Service on Citizens' Committee.
	INSTITUTE DOCUMENTS	Schedule of Charges. Competition Code. Contract Documents.
Discrimination between Architects By Means of	THE JOURNAL	General Articles. Structural Service Department.
	INSTITUTE MEMBERSHIP	Chapter Associate Membership.
	REGISTRATION LAWS	Legislative Campaign.
Esthetics, Etc. By Means of	PUBLICITY AND ADVERTISING	As per 1 and 2.
	COURSES IN DESIGN	Grade School Drawing Classes. High School Art Classes. College Art Courses. Professional Schools of Architecture. Professional Courses in Allied Arts.
	TRAVEL	Scholarships. Vacation Tours.
Practicalities By Means of	EXPERIENCE	Criticism of Executed Work. Study of Building Material Qualities.
	TECHNICAL SCHOOLS	Courses in Planning and Construction.
	DRAWINGS AND SPECIFICATIONS	Accuracy and Essential Completeness.
Reliability By Means of	INSPECTION	Thoroughness.
	ECONOMIES	Ingenuity in Use of Materials. Inventiveness in Structural Devices.
	COURSES IN	Professional Practice. Office Management. Inculcation of "Professional Idea."
	BUSINESS METHODS	Administering Work. Dealing with Trades and Crafts.
	"BUSINESS MAN" ROLE	Soft Pedal "Artist" and "Dreamer" Business. Soft Pedal "Professional Idea."
	RELATED FIELDS	Real Estate Promotions. Financial Brokerage. Various Degrees of Contracting.

There can be none in the sense implied, unless (A) is first established.

1. Why is it that many people who would like to build better houses, factories, stores, offices, churches, etc., cannot do so?
2. Why is it that many people who need, and would like to build some sort of building, cannot do so at a cost that will show a profitable investment?
3. Why do those who do undertake to build, buy or rent decently built buildings, so often have to put up with the flimsy ungainly structures which pass for architecture?
4. Why, during the stress of our country's dire peril, has it been, that the poor man couldn't and the rich man wouldn't build the houses so desperately needed?
5. Why is there inevitable opposition to the acquirement of benefits for a whole community, in the shape of a scientifically prepared city plan?
6. Why is there such compelling competition in cheapness of structure, rather than in excellence?
7. Why must there inevitably be a struggle and compromise in securing improvement in building ordinances in the interest of health and safety of human life?
8. Why, on the average, are ordinary buildings so planned and constructed as to just get by the building ordinances?
9. Why are not excellence of structure and design inevitable weapons in the competition for tenants?
10. Why is not architectural distinction the *sine qua non* of real estate development and city growth?
11. Why do large numbers of people regard architecture as an unattainable luxury, others, for various reasons as a necessary evil, and still others, as of no practical value?
12. Why is not architectural excellence—hence the employment of competent architects—generally, and naturally, recognized as a business necessity?
13. Why has architecture so seldom been expressive of the life and aspirations of individual human beings, but practically always, and solely, of the character of a social and economic order?
14. Why does not the architect fit into the social order as an economic necessity, as unflinchingly as does the civil, mechanical, and electrical engineer?
15. Why is not the character of an architect's education as unflinchingly indicated by the social need for his services as is that of the civil, mechanical, and electrical engineer?

Consideration of these and other equally familiar measures, which have been used to improve the relation of the public to the architect, awakens surprise at the little effect they have had to increase esteem and respect for the profession.

They tend, certainly, to improve relations between individual clients who have an appreciation of art, who understand the functions of the architect, and who are able to distinguish between competent and incompetent architects. But such benefits seldom impress any but like-minded clients.

The situation seems significant of failure to grasp all the factors involved in the status of the architect and suggests that the problem be attacked from a new standpoint. For instance, from that of a building project, which is a condition precedent to any of the relationships (A), (B), and (C).

Examination of conditions which surround and are impressed upon building projects, reveals how social and economic forces entirely beyond the control or responsibility of the architect, may weigh heavily in a determination of his status; so heavily, in fact, that even were the relationships mentioned made perfect, the profession of architecture might, conceivably, disappear as an essential factor in modern life.

Until these and similar questions are thoroughly investigated, and the effects which present-day social and economic laws and practices have upon architecture are determined, little confidence can be felt that whatever may be done to improve the relations (A), (B), and (C) will be effective permanently, to strengthen the profession of architecture, or to improve the status of the architect.

amount equal to these two taken together as the architect's honorarium.

In the course of the argument attention was called to the fact that while the percentage scheme puts all architects apparently on the same basis as to the value of their services, against this the percentage scheme had helped to put architects on a fair basis of compensation and enabled the young men to get proper pay. To do away with the percentage scheme now would be to open the door, first, to competition as to price, second, to make it difficult to prove in court as to value of service, and third, would make it difficult to get a proper rate on public work, particularly in competitions where it has been hard enough to establish a schedule rate. The only advantages that are evident in the cost plus scheme is that the architect could not lose anything by this method, and furthermore, that a client actually is responsible for the costs in the office where he himself is the cause of their increase. The point was also made that the owner who would suspect the architect, under a percentage scheme, of wishing to increase the cost of a building in order to increase his fee, would unquestionably suspect the architect's accounting, and would be quite likely to wonder whether he was running his office economically.—R. D. KOHN.

(An opinion by L. C. Mullgardt, San Francisco)

As individual ability and nature of service varies, therefore the rate of compensation should not be uniform nor should the Institute attempt arbitrarily to provide a minimum rate of compensation. The Institute usurps individual freedom in attempting to prescribe a uniform charge for results the quality of which it cannot insure to the client. Every practitioner should be obliged to determine the value of his own service.

Many low-grade practitioners have joined the Institute to insure a higher rate for service than they can otherwise obtain. They impose upon the public, using the prestige gained through Institute membership. The Institute should concern itself with quality of membership, not quantity.

The Schedule of Charges has never barred competition as to price among architects. Every architect should charge only what his services are actually worth. The Institute should not endeavor to suggest the value of any practitioner's service. Such values necessarily vary according to quality and character and should therefore be determined between architect and client.

If the Institute continues to make recommendations concerning compensation, then a proportionate increase should be assigned for preliminary service; this demands ability to create an appropriate design and service necessarily embraces that which is most valuable to the client and should be charged for accordingly, whether in competition or otherwise. Preliminary service in competition is of equal importance to preliminary service without competition. It represents the same degree of service and importance and should therefore not be discriminated against.

Architects and the Building Contract

(An opinion by T. E. Billquist, Pittsburgh)

As a means of increasing the usefulness of architects to the community and the eventual growth in public regard

for the profession, of increasing the honestly earned living of architects and assistants, of increasing their knowledge of actual business conditions with corresponding additions to studies in required education for architects, I most earnestly recommend for your serious consideration a change in the method of making contracts for executing work from the system of a general contract, embracing all work included in erecting a structure with the frequent omission of plumbing, heating, electric work, hardware and light fixtures, to separate contracts direct with the separate building trades, a system of contracting more than once recommended by the Institute but only occasionally practiced.

Erection of any building by separate contracts increases the architect's responsibility in supervising the work, making him, as he should be, the responsible general guide for its successful and rapid erection. It requires much more frequent and more capable supervision than now is given by architects and may require the assistance of specially trained men, regular erecting engineers, for special work. Competent assistance of an accountant is also needed to handle keeping of accounts, monthly payments to the several contractors, etc., all increasing the architect's expenses, not to mention the more detailed and more numerous copies of drawings and letters. These added responsibilities should not be undertaken without competent assistance, to be paid out of the additional compensation the architect receives for his services, generally a total of 10 per cent, making the net financial gain to him from 50 to 100 per cent of his net profit from work erected under general contract at the customary fee of 6 per cent.

The increased work for the architect by separate contracts is partly compensated for in dealing with his client during the entire time of erection of the structure without the presence of a general contractor. The time is past, if it ever existed, when a general contractor pays for all discrepancies in plans and specifications. He now not only wants full payment for changes and additions, but sometimes has direct dealing with the client on any subject he has acquired full information about, and not always to the advantage of the architect. The several building trades, the subcontractors of the general contractor, actually prefer to deal direct with the owner through the architect, making a competent organization for executing any work, provided the architect furnishes good plans, specifications, and supervision.

Much needed advance has been made in the design of work entrusted to architects, largely due to men trained under French influence. Many of these men have, however, a low opinion of the structural side of their profession, preferring to leave this entirely to engineers and contractors. By this self-chosen limitation of the function of their profession, the relative importance of general contractors and building engineers has increased, almost delegating to them the actual construction of buildings, leaving to the architect only the design. The natural development has been the employment of designers by the big contracting concerns and entire elimination of the professional architect. The only method of checking this tendency is the general adoption by architects of separate contracts with the different building trades, a system so much feared by

POST-WAR COMMITTEE ON ARCHITECTURAL PRACTICE

the general contractors that they have been known to organize and refuse to bid on any work in any architect's office where such vicious methods were practised.

When the architects reclaim, as a part of their profession, the knowledge of construction, including the proper use of standard and patented forms, and ability to properly supervise its execution, they will be trusted by the public with the great amount of building construction now exclusively done by contractors and engineers, work that is mostly in great need of suitable design. Architects trained in construction will probably, like the engineers, prefer to execute their designs under separate contracts. By direct dealing with all these contractors, the architects will learn to make good drawings as a basis for contracts, the improvement in this respect in good offices being very marked. The room for improvement in specifications is far greater and more urgent.

One of the best reasons for the general adoption of separate contracts with all the building trades, as against a general contract for most of the work, is the reduced cost to the owner, caused by saving of the overhead charges of the general contractor, sometimes by the commission he receives on changes or, occasionally, on subcontracts. By contracts direct with the firms that actually execute the work an architect who knows his business can get very good work for his client, frequently better work than under the general contract, making it true under normal business conditions that separate contracts give the owner under all circumstances equally good work for the same cost, frequently better work for less cost than work executed under general contracts.

(An opinion by the Illinois Chapter)

The arguments on which this report is based are these:

1. The growing tendency on the part of contractors to favor a cost plus fee or percentage system in lieu of the lump sum contract, thus passing all responsibility, all risk, to the owners and the necessity of a more thorough supervision of work and the checking of bills for material and labor by the architect, and the attending risk of unnecessary cost.
2. The impetus given to coöperative and organization methods by the Government in awarding and conducting war contracts.
3. The assumption, by contracting and engineering firms or organizations, of complete service from the designing to the constructing and finishing of his buildings, a system seemingly growing in favor with owners because of guaranteed costs, etc.
4. The unreliability of architects' estimates and the necessity for more care and reliability in preparing same, and
5. The fact that it is deemed professional by the American Institute of Architects to let work direct to subcontractors and eliminate general contractors, charging for this service an increased percentage on cost in the regular way.

The conclusions reached by the report are:

1. That the architect will need to assume a larger share in the control of the construction of his buildings; to check accounts; to eliminate superfluous labor common to many percentage contracts; to exercise more care in preparing estimates and be in a position to practically guarantee

costs, by establishing a reliability in estimating that will beget the confidence of his clients.

2. That in order to best serve his clients, he should be free to consider and adopt any means necessary to do so, even to the purchasing of materials and certifying of accounts for same and for labor to his clients for payment, charging for this service an increased fee or percentage on the cost of the work in the same manner as at present; that such assumption of control is but an enlargement of methods and practices now recognized and considered professional.

The report in no sense is intended to be a method of procedure to be adopted by all architects, but is rather a plea that an architect should be free to adopt such methods as seem best to serve his clients' interests and permit him to retain greater control of his building operations.

The Committee, through its chairman, offers the following preamble and resolution:

WHEREAS, The practice of subdividing contracts and letting work to contractors for individual trades is endorsed by the American Institute of Architects as professional, and

WHEREAS, Conditions may arise where it may be deemed advisable for the architect to purchase materials and audit bills for materials and labor for payment direct by the owner, therefore be it

Resolved, That it is the concensus of opinion of the Illinois Chapter of the American Institute of Architects that it should not be held to be unprofessional for the architect, where his client's interests can best be served by so doing, to employ, on behalf of the owner, a building construction manager who, acting under the direction of the architect, may purchase materials and employ labor, audit the bills and pay-rolls for same for payment direct by the owner, and charge for his services a fixed fee or percentage on cost of the work.

Summary of report of subcommittee to consider steps to be taken to permit architects to do work of construction on cost plus fee system and retain professional standing.—Illinois Chapter. (Adopted Mar. 11, 1919.)

(An opinion by Louis A. Walsh, Waterbury, Conn.)

I think a good slogan for the young practitioner and for some of us older ones would be: "I will never let myself be found specifying a material that I do not know all about." I may be wrong, but it seems to me we have spent most of our time in governing ourselves instead of teaching ourselves, and I would like to see that proposed "What Constitutes an Architect" finished up and published as soon as possible.

The Large Building Company vs. The Architect

(An opinion by Elmer Grey, Los Angeles)

The product turned out by the building company method is not at all the same as that turned out by capable architects. Much of the public, however, does not know the difference—and here is where advertising should come in. The rates the building companies charge are no lower than those which high-priced architects charge, only they are so camouflaged as to appear to be lower to those

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who do not investigate the matter thoroughly. The standard of work of the building companies is not high, however. Their business success depends upon the fact that at their heads, in each instance, is a man who is a wizard at salesmanship. Theirs is a talking game.

One of their heads, for example, recently spent an entire afternoon trying to get me to join his organization, and in order to do so told me about his methods. It was illuminating! He was not an architect, not possessed of an architect's training or ability, yet he professed to be the intelligent creative genius and director of his designing department! The designers these companies usually employ are draftsmen of mediocre ability.

If the building company plan were giving the public better service than the professional plan, it should survive and supplant it. I should then wish to join with a building company, and, as I have said, I have had an opportunity. But it does not. The above experience is not the only one I have had with building companies. In another instance one of my clients who succumbed to the wiles of a building company salesman let him have her construction work on a percentage basis, and on a \$10,000 house her decision, against my advice, cost her something over \$600. I had a bona fide bid for that much less amount from a reputable contractor.

I believe, from this and other experiences, that the professional plan separated from the contractor is distinctly better for the owner than the building company plan—better not only from an æsthetic point of view, but also from a financial—and it is only advertising that will acquaint the public with the difference. I believe the war has taught us the value and the necessity of such propaganda.

Education

(An opinion by V. A. Matteson, La Salle, Ill.)

We do not need a new kind of school. What we need is a new kind of teacher and a new point of view ourselves, and (perhaps through us) a new point of view for the educators—not only architectural but general.

Many of our architectural schools are subordinate to colleges of engineering. This is wrong both for us, for the engineer, and for the public. The idea of the real master builder *includes* engineering in most of its branches, and this should be the point of view of educators of all kinds. We should approach the whole subject from this broad viewpoint, and include as integral with architecture those branches now called "engineering" that are really a part of the master builder's art, such as structural, electrical, sanitary, and ventilating engineering. My idea is that the so-called Engineering Division of the Construction Division of the Army was a truly architectural organization, embracing a much larger field of usefulness than what is now usually meant by architecture.

The question of the young man in the profession involves the eternal questions of self-interest or selfishness as against idealism and liberality. I confess I do not know the answer. I fancy the young man will still have to shift for himself as he has been doing all these ages in all lines of his endeavors at self-preservation. We can at least leave him alone—which we do not now, at least not "ethically."

Report of the Joint Reconstruction Committee of Illinois Chapter (adopted March 11, 1919).

While not made directly to the Post-War Committee, the following report, with resolutions, from the Illinois Chapter, may very properly be here included as an expression of opinion on the question of education:

WHEREAS, We, the Illinois Chapter of the American Institute of Architects, believe that the present methods of education and courses of instruction in vogue in our architectural schools are reactionary and not in harmony with modern, and especially post-war conditions, and are not properly fitting the student for the problems which he will from now on be called upon to face as a practising architect, and

WHEREAS, We believe that such courses of instruction could be improved as follows:

1. Obtain a better correlation of subjects in the curriculum.
2. Omit or shorten the courses in certain subjects, and add certain other subjects.
3. Inculcate by actual experience a better knowledge of architectural practices and of building practice.
4. Make a decided effort to stimulate the creative, and not the imitative, instinct of the student.
5. Lengthen the course for a degree in architecture to five years. Be it therefore

Resolved, That the report known as "A Report of the Subcommittee on Education of the Reconstruction Committee of the Illinois Chapter, American Institute of Architects, and the Illinois Society of Architects" expresses our conviction in the matter, and is hereby approved and indorsed by us. Be it furthermore

Resolved, That the said report be sent to the Journal of the American Institute of Architects and to such architectural schools as may be deemed advisable, and furthermore, that such methods as may be considered wise shall be undertaken by the Chapter for the purpose of its consummation.

The Architect as Citizen

Report of Joint Reconstruction Committee of the Illinois Chapter (adopted March 11, 1919).

WHEREAS, We recognize that the architectural profession is concerned, whether or not it is formally consulted, with everything that is done or left undone either by individuals or by our municipal, state, or national governments in building, housing, or town planning; and,

WHEREAS, It is our duty to our nation to have a distinctive professional opinion as to what needs to be done and to formulate a constructive criticism upon the acts of our public officials; and,

WHEREAS, It is a proper function of our profession to serve the State, therefore be it

Resolved, by the Illinois Chapter of the American Institute of Architects in regular meeting assembled, That we tender to our municipal and state authorities our services in an advisory way; and be it further

Resolved, That we urge upon our members the utmost importance of each and every member of the Society taking more interest in the affairs of our municipal and state governments, and in performing their full duty to their state and city by performing their full duty as citizens.

The Architecture of Nashville*

FOR members of the Institute who will not be privileged to attend the Convention at Nashville, we are publishing such illustrations of architectural interest as space will permit. It is greatly to be regretted that there cannot be included other illustrations setting forth the beauty of the Blue Grass region in which Nashville lies, for, unless we are greatly mistaken, those who return from the Convention will remember this region quite as much for its beauty of landscape as for the architectural charm of its old-time residences.

The Capitol, situated on what was once known as "Campbell's Hill," was designed by William Strickland, who had been called to Nashville from Philadelphia after a careful consideration by the commissioners in charge. Strickland had worked with Latrobe on the Capitol at Washington and had made a study of the notable monumental buildings of Europe during a visit there. His plans were submitted on May 20, 1845, and were eventually approved with but little change. The first General Assembly held in the building was in 1853-54, but the last stone on the tower was not laid until July 21, 1855. Rumor credits Strickland with having stoutly opposed the addition of the tower, or cupola, which was not included in his original plan. It is easily conceivable that he would have been likely to take such a position, in view of his training and of the academic lines of the main structure, but documentary evidence seems not yet to have cleared up the point definitely. Strickland died on April 7, 1854. He had remained in Nashville since first presenting his plans to the commissioners of the Capitol, and had executed other buildings in and about the city. On his death the work was taken in charge by his son, Mr. F. W. Strickland, who superintended it to its completion.

POLK PLACE. (See p. 169.) The house, now unfortunately destroyed, was situated in the heart of the city, "almost under the shadow of the Capitol itself," writes Mrs. Beard, and "few places of like character could so

*For the illustrations and descriptive matter of the residences on pp. 165-170, we acknowledge our indebtedness to Mrs. James E. Caldwell's "Historic and Beautiful Homes Near Nashville, Tennessee;" for the notes on the Capitol and the residence of President Polk, we are indebted to a pamphlet prepared for the Tennessee Capitol Association by Mrs. W. E. Beard.

eloquently have told 'the human greatness of an age gone by,' for the house was filled with relics, books, personal belongings, and state documents associated with the momentous events that transpired during the political career of its owner. . . . The spacious, old-time residence, typical of the lofty architectural ideas of the builders of the time; its massive columns, imposing entrances on two streets, and the old-fashioned grounds which surrounded it made a picture place of alluring beauty, entirely apart from its historic value." In spite of the expressed desire of President Polk, as recorded in his will, the estate was eventually sold, the house destroyed, and the tomb removed to the Capitol grounds, the bodies of the President and his wife being there reinterred.

"BELMONT," (see p. 168), designed by William Strickland, was the home of Mr. and Mrs. Joseph H. Acklen. It was built in 1850, and at that time it was, perhaps, one of the most noted private establishments in the United States. In front of the house was a formal garden, with beds of flowers, statuary, fountains, and a lake in the center of which was a tower with an observatory. In the distance, always to be seen, were the ever-changing blue hills. In 1864, during the Battle of Nashville, the tower was used by the Federals to learn the movements of the Confederate Army.

"RIVERWOOD," (see p. 167), stands, its dignity still undisturbed, as one of the best of the fine old country houses around Nashville. It was built in the first years of the nineteenth century and was the home of three generations of Porters. The place was a typical southern country home of generous hospitality, many slaves, fine horses, and lavish entertainments. Its white-column entrance welcomed all the notables of the times.

Of peculiar interest is the original name of this place, "Tammany-Wood," called after the old estate of the Porters in Ireland, "Tammany Hall." Long years before the "Tammany boss" came into power in New York, "a Tammany flourished in the fair groves of Tennessee, but in a more gentle, gracious way."

"SYLVAN HALL," (see p. 170), was one of the first habitations built in middle Tennessee, in 1808, and is now standing in good preservation. The bricks were made on the place, while the planks and timbering were cut, with a primitive overhead or whip saw, from the wild forest adjacent.

The furniture—tables, chairs, and bedsteads—was made on the place, and some of it is still in use in the ancestral home after a lapse of one hundred and twenty-five years.

"LONGVIEW," (see p. 170), has been the home of Mr. and Mrs. James E. Caldwell for over thirty years, having been added to and enlarged at different periods. It stands on ground made historic in the Battle of Nashville, having been quite in the center of the bloody operation of that



AN OLD NASHVILLE RESIDENCE

eventful occasion. A part of the breastworks can still be seen in some of the fields. The house fronts on the Franklin Pike—a veritable historic highway—used by the stage coaches of early times, and over which passed the army of Andrew Jackson on its way to New Orleans, the armies of Albert Sidney Johnson and of Buell to Shiloh, and those of Schofield, Hood, and Thomas on their way to Franklin and Nashville.

“KINGSLEY,” (see p. 166), erected by Mr. Dempsey Weaver in the year 1831, is situated on the Murfreesboro Pike over which Rosecrans’ army passed on its way to the Battle of Stone River, and which was used by General Grant as a military highway in supplying and reinforcing his army at Chattanooga.

BURLINGTON PLACE, (see p. 165), was erected in 1859 by W. R. Elliston, after plans by William Strickland. The house once stood amidst broad acres, but, as the city grew, was engulfed therein.

“OVERTON HALL,” (see p. 169), the residence of Mr. and Mrs. Jesse Maxwell Overton, was built in 1900 by Mr. Overton. It stands in the midst of a large park, thickly wooded with trees. The land on which Overton Hall stands was granted by the United States Government to Jesse Maxwell, the great grandfather of its present owner, for services in the Revolutionary War. Mrs. Overton is the great granddaughter of Samuel D. Morgan who was one of the eight commissioners appointed to build the Capitol and who is buried in a niche in the walls.

“BELLE MEADE,” (see p. 166), home of the Harding and Jackson families, “one of the most picturesquely beautiful of the romantic homes of the South, is situated on the Harding Pike. Historic from every standpoint is this splendid old property—historic in its first ownership and in its long and splendid life; in the famous men it sheltered, and the famous stock it has bred; historic as a type of the southern home of a period that has passed away, and in the life and service of men who made its greatness.”

THE ARCHITECTURE OF NASHVILLE



OLD COMMERCIAL HOTEL

"Belle Meade was the oldest thoroughbred breeding establishment in America. General Harding, who was a devoted lover of fine horses, always spoke of them as the 'Royal Family.'"

"Here lies Iroquois, famous as the only American horse to win the English Derby, and winner of the St. Leger and Prince of Wales stakes; Luke Blackburn, peer of any racing horse in America; Proctor Knott, and the Enquirer, to whose greatness the *Cincinnati Enquirer* erected the monument at Belle Meade."

"THE HERMITAGE," (see p. 168), the home of Andrew Jackson, is situated on the Lebanon Pike, about twelve miles from Nashville. The original Hermitage was built of logs in 1804, and part of it is still standing. Jackson's family was living there when the Battle of New Orleans was fought, in 1815, and he returned to this humble home the conquering hero and idol of the nation. The present

site was selected in 1819, and the house was built of brick made on the place.

The house and its contents in general are preserved quite intact, and, together with the grounds and gardens, they seem to reflect the rugged simplicity of their owner. The wide hall, with double rooms on each side, runs through the house. Its walls are covered with pictorial paper and thereon one may trace the tale of Telemachus in search of his father on the island of Calypso.

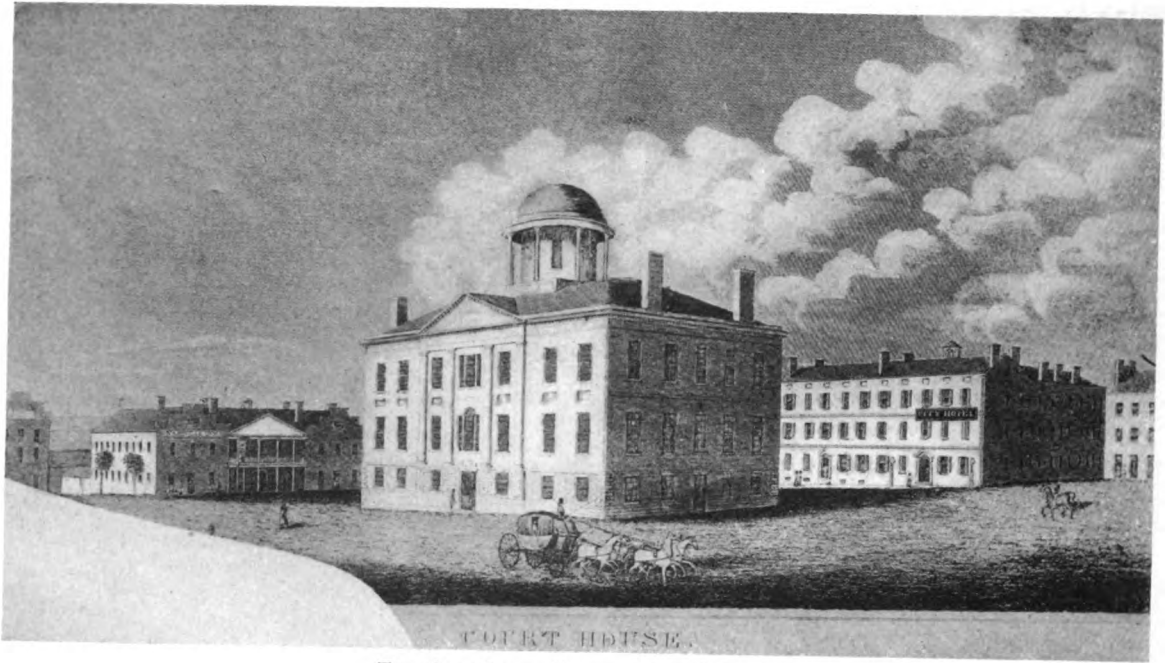
Lafayette was once a guest at the Hermitage, and ex-President Roosevelt, while occupying the White House in 1907, made a special journey to Nashville in order to visit the place. His subsequent action in recommending it to Congress as a national possession to be cherished and given support and assistance adds another instance to the many in which his ready perceptions pointed out the worthy thing to be done.



PRESBYTERIAN CHURCH, NASHVILLE.—William Strickland, Architect



EPISCOPAL CHURCH (COLORED), NASHVILLE.—Richard Upjohn, Architect



COURT HOUSE.
THE OLD COURT HOUSE, NOW REPLACED

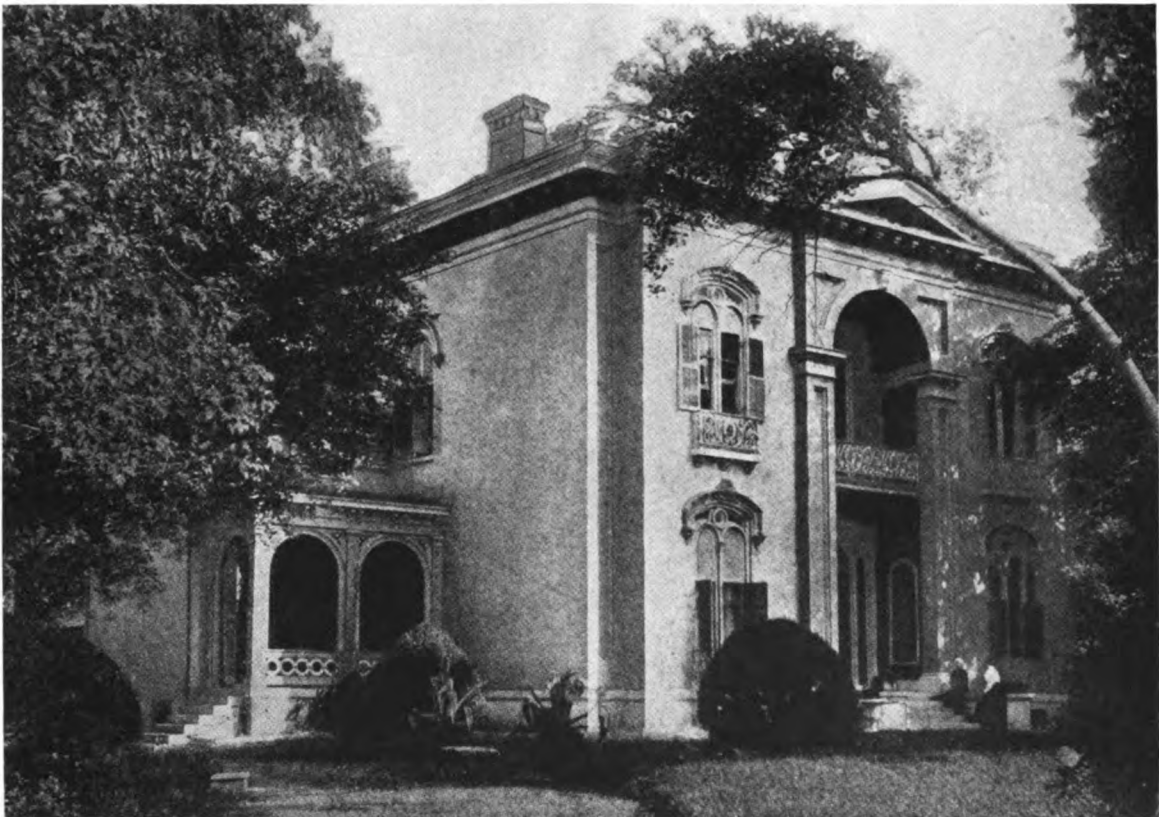


NASHVILLE INN

OLD NASHVILLE BUILDINGS



"DUN AILLIE"



BURLINGTON PLACE.—William Strickland, Architect. See page 160



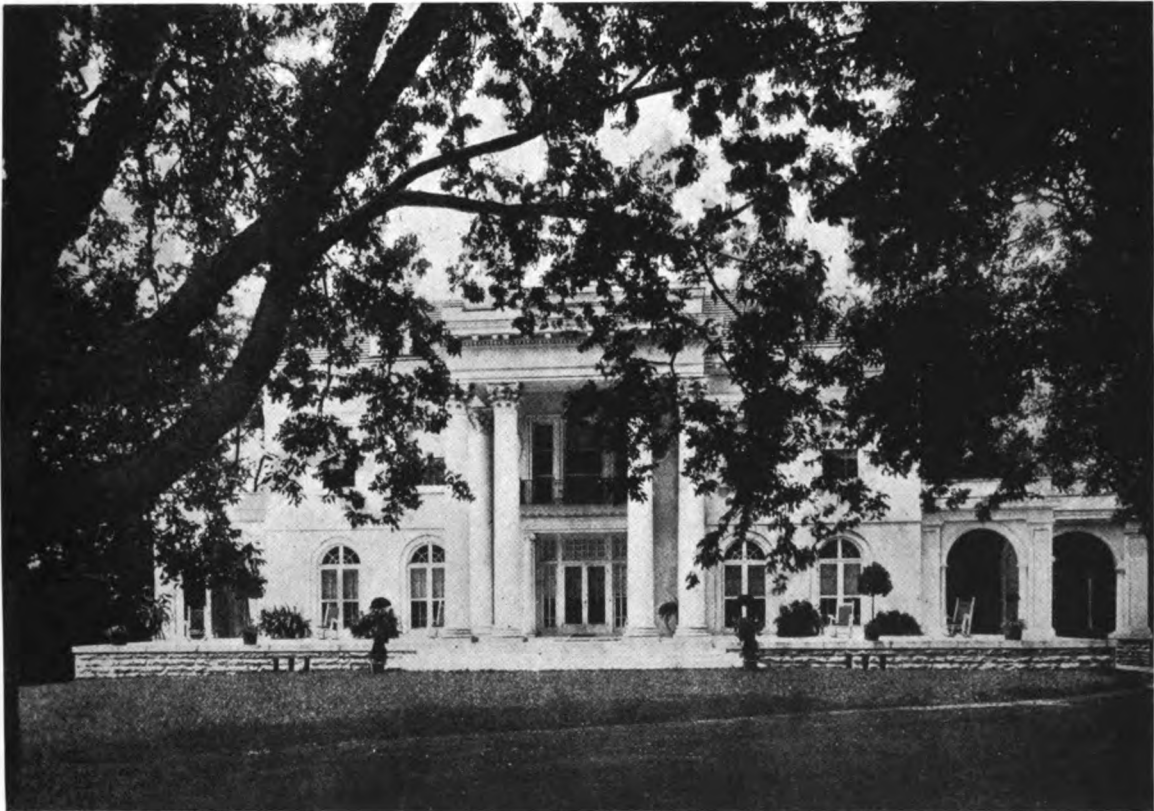
"BELLE MEADE." See page 160



"KINGSLEY." See page 160



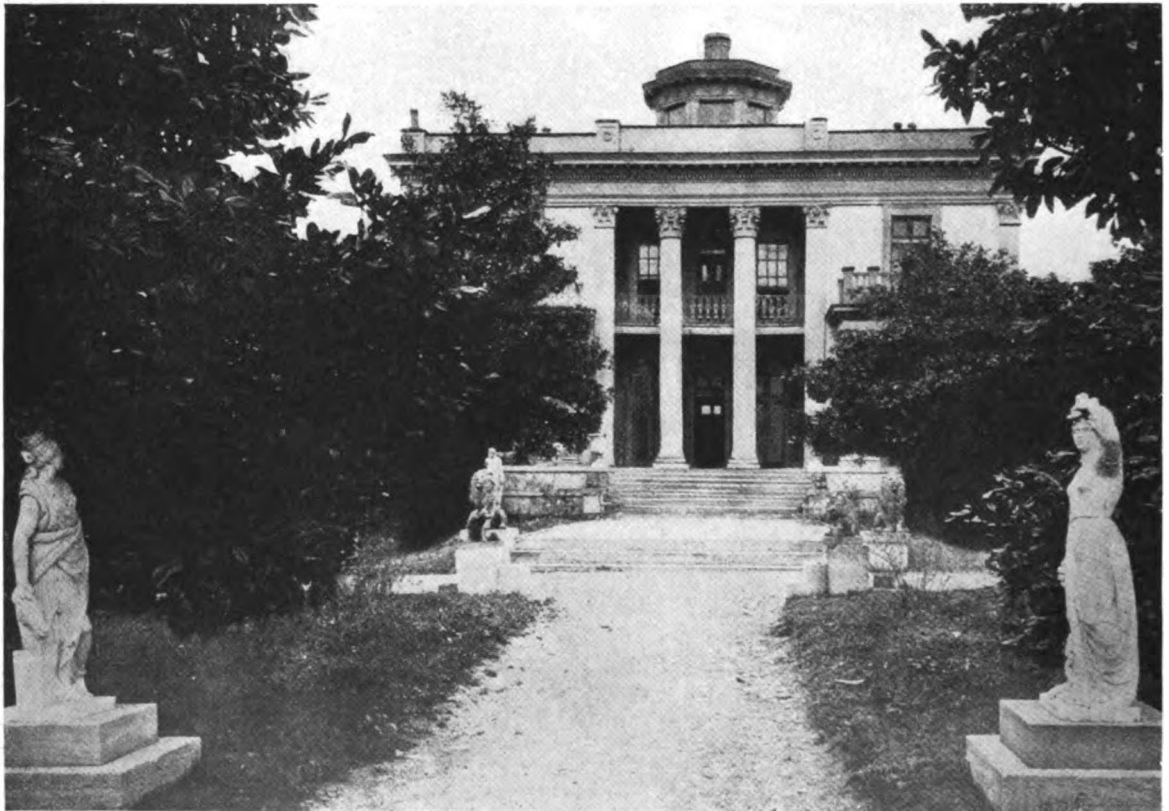
"RIVERWOOD." See page 159



RESIDENCE OF MR. AND MRS. JOHN M. GRAY, JR.



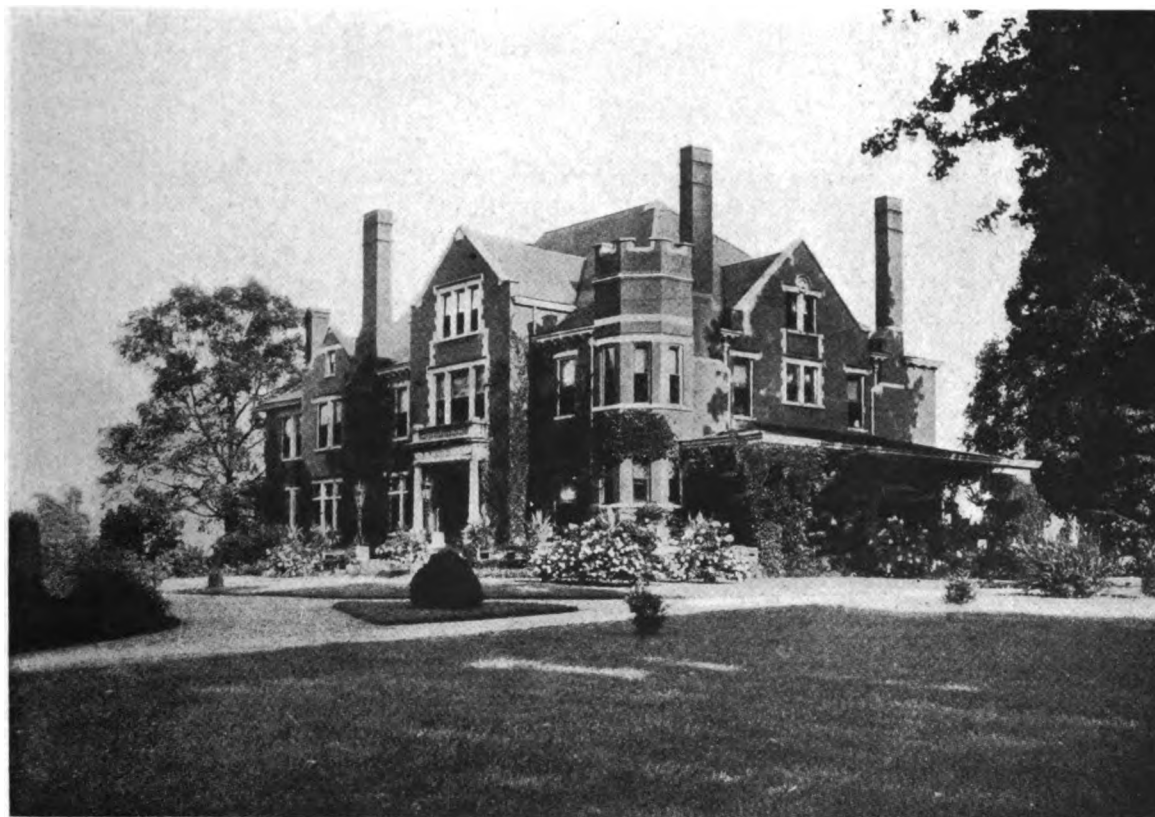
"THE HERMITAGE." See page 161



"BELMONT."—William Strickland, Architect. See page 159



THE RESIDENCE (DESTROYED) AND TOMB OF PRESIDENT JAMES K. POLK. See page 159



"OVERTON HALL." See page 160



"LONGVIEW." See page 159



"SYLVAN HALL." See page 159

Rebuilding the Devastated Regions of France

By JEAN-PAUL ALAUX

IN a preceding article we considered the extent of the problem of reconstruction in the devastated regions of France. In particular it must also be remembered that the rebuilding of the roads, railroads, canals, and bridges constitutes the projects which now most preoccupy the French government. Of the railroads, for example, there are 4,300 kilometers (2,700 miles) which have been completely destroyed; on the canals there are 400 bridges and 115 locks which have been rendered useless by the enemy. It is of the utmost urgency that these be repaired at once in order to reestablish transportation, repatriate the refugees, and provide for the resumption of agriculture and commerce.

As for the work of repairing the destroyed buildings, that is to say, architectural work, properly called, this is divided into two categories: First, and most urgent, the provisional work of repairing those houses which have not been completely destroyed. These are in various stages of damage—roofs crushed in, window-glass gone, doors, windows and frames shattered. For the execution of this work, a special service has been organized to make hasty repairs to dwellings which have been only lightly damaged, in order to make them habitable for the time being, build barracks for the workmen, and furnish the necessary supplies for the resumption of agriculture—machines, seeds, fertilizers, and horses—in order to assure as large and as quick a crop as possible.

In certain regions this sort of work is very extensive. For example, in the Department of the North there are 57 communes where the destruction of buildings reaches as high as 40 per cent; 32 where the destruction varies from 40 to 90 per cent; and 59 where it exceeds 90 per cent. There are 49,000 houses destroyed and 100,000 which have been pillaged completely. The work of clearing up the ruins and of supplying materials for the most urgent repairs has already begun.

It is said that 200,000 German prisoners will be available for the work of rebuilding, and that there also will be employed Russian and Chinese laborers. The method of procedure obliges the owner of the property to prepare an estimate of the principal work required. The government

advances 75 per cent of this to the contractors. Materials are, for the most part, no longer controlled by the government, and can be obtained by the contractors directly. The approval of the government still gives priority for lime and cement. Glass is lacking, but important quantities are expected from America, Belgium, and Germany. However, the present crisis is one of transportation; this dominates everything and still paralyzes action.

There are localities where the only solution is the automobile truck. Between now and the end of April it is expected that 20,000 of these trucks will be in service; but this will require a small army of chauffeurs, not an easy thing to obtain, for demobilization has scattered them greatly and many of them have taken up other occupations.

The second category to which I referred is that of permanent works. These require an immense amount of preparation, including the elaboration of the plans of the towns and villages according to the most modern practice in town planning. One very important law is now being studied. This is known as the Cornudet law, and requires that no work shall be begun until the commune or the town has prepared and received the approval of its plans, not only for the present general arrangement but for extensions as well, following good town-planning practice. Senator Magny, who introduced this law into the Senate, has suggested several modifications which are now being studied.

The immense plants built by the American army for war purposes have been studied with a view to adapting certain methods in their construction which lend themselves to our great problem of reconstruction. A great number of inspectors and experts is already at work in the destroyed towns for the purpose of establishing a list of the buildings destroyed.

(The balance of M. Alaux's article refers to an exchange of correspondence between the American Institute of Architects and the Architectural societies of France. This cannot be made public until after its consideration by the Board of Directors of the Institute, which meets in Nashville on April 29.)

Architecture, Industry, and Wealth in the Future*

By ELLIS F. LAWRENCE

TO analyze the future of the architect is to analyze the social tendencies of these days, which are so seething with the ambitions of commercialism on the one hand and so prescient with the hopes of better things on the other. Nineteenth century industrial tendencies are still strong, but arrayed against them is the cumulative strength of belligerents. The sanity which these forces bring to bear on the affairs of mankind will determine not only the relationship of the architect to society, but also the happiness of people at large. Upon the working out of this struggle—and it is evident that it will be a struggle—will depend not only the architect's status, but also the peace of the world. . . .

Who were the masters of wealth in the past under whom great architecture was created? What were the motives behind their desire for beautiful structures?

No inspiration or help for our present problems can be secured from the first two types of masters of wealth—the absolute monarch and the conqueror. The world has outgrown interest in both in this war, but it is well to note that when these one-time masters, by so-called divine right or by the power of the sword, controlled the wealth of their realms, they created great architecture only when they were moved by ideals of great strength and by high standards of culture, as culture went in their days. Germany is an example of a modern state ruled by an autocrat with an all-absorbing ideal. Culture was lacking in this ideal, and the ideal was gross indeed, but of all modern nations can one find elsewhere an architectural expression of more real national character?

Greek statesmen, exponents of the perfect state by the perfect few, were masters of wealth, the wealth of their state. They were stimulated by intellectual ideals still unrivaled. Although they limited their conceptions so that they might hope to attain perfection, they were constantly striving to serve their state in what they did. The spoils of war and of commerce alike went, when there was a surplus, into glorification of their master. Their architecture was, to be sure, slave architecture—but their slavery was, if that is possible, humane slavery—a slavery in which even the slave could become the honored creative genius that perhaps nature meant him to be. Can the wage-slave of today do likewise?

Mark well, also, the new note found in Byzantine and Gothic architecture with the advent of initiative born of freedom and coöperative effort. Whether it was the church or the "free city," or the combination of the two, which the master builder and his craftsmen served, the results were virile, fascinating, inspiring. The imagination of the workers had full play; each was a master unto himself, but a master serving the traditions of his craft, and so harmony was not violated too seriously. These were the days of the guilds, when production was based on quality and not on quantity, when the producer controlled his output.

And then, as the Gothicists would say, "the picking,

*Part of an address delivered before the Washington State Chapter.

sneaking fingers of the Renaissance broke the psychic wings of art." Wealth began to flow more and more into the hands of the few. Exploitation began. The religious motif waned. The master craftsmen began to assume relationships akin to those of the modern architect. Each individual became sufficient unto himself, although still inspired by civic pride, which saved the age. The era of commercialism was about to be begun. We love the masterpieces of the Renaissance because they are so much a part of that age of which we are an outgrowth, but we cannot be blind to its indifference to the truths of the soul.

Today, our interest must center on the forces behind the ambitions of commercialism and the dreamers of democracy. Which will dominate the future? Where will the wealth be? Will its masters want real architecture or mere building? What is more important in any analysis of the future field of the architect—what will be the motives prompting the desire of these masters of wealth if they do want real architecture?

If we limit our discussion for the time being to the United States, we may eliminate the extremes of both factions. The radical standpatter—for that is what the extreme commercialist is—believes in the working out of the "usual channels of trade," because, controlling trade, he can direct it to the protection and rapid increase of his own investments. He resents all forms of paternalism on general principles. He rebels against price regulation and against governmental control of utilities. He resists any disturbance of existing property rights and methods of taxation under which his comparative load has been lightened. He believes, with a similar portion of the British people, that we together are destined to control the trade of the world, and he is willing to risk another world war to gain his ends. Have we not perfected a gas-bomb that is so effective that no living being can survive within a great radius of its explosion? Do we not know the secrets of the German incendiary bomb that burns all within its explosive radius? What have we to fear from other nations? No; the architect will not have to fear this régime. We are too close to a war fought by those who really fought it for us. The extreme old-school commercialists, even if their leaders had not been discredited, are through ruling the destinies of this republic. Neither will the extremists of the other camp triumph, in this country at least, if their policies countenance the destruction of property and life to gain their millennium. We have had too much education, bad as it has been. The power of the ballot is a better weapon than the bomb, in a state where the majority rules. Reforms will be peacefully carried through, effective when leadership is effective.

Somewhere on middle ground will be the adjustment. The captain of industry is well entrenched. It is probable that he will be here for a long time. But he is changing with the times. He has seen the handwriting on the wall. He has listened to his "efficiency engineer," who, after exhausting the field of factory arrangement and sanitation,

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has turned to the living conditions of his workers. The financial results of experiments carried out in "housing" have brought, not only financial rewards from their human assets, but the satisfaction of seeing rosy-cheeked children, happy men and women, has given the industrialists something more lasting. One way of reforming a reprobate is to give him the experience of doing good. Then, too, there are several captains of industry who became "dollar-a-year men" in the war. Some of these had their first experience in serving a great cause unselfishly. That these experiences will not influence reform movements, is hard to believe.

The great danger is the machine. It will hurl us to economic destruction, sooner or later, if not controlled, but if directed by the real producers, it may become the means of bringing a great era before we know it. Shortening the hours of the human feeder of the machine will, in time, give an opportunity to the worker to make something out of his life, to rise above the functions of production and consumption, into the realms of real citizenship.

Perhaps then we shall have, once more, a class of craftsmen, without which architecture cannot reach the heights.

While our best judgment may tell us that the change from industrialism to that state of society dreamed of by

the reformers will not be immediate, we must keep in touch with all movements which will correct the tragedies which our present economic system develops. We must understand the significance of such platforms as that of the British Labor Party. We, as professional men serving a wide range of interests, are in a peculiar position to know conditions as they are. As such we shall, if we are courageous and true, play our helpful part in the leadership of these reconstruction days.

Slowly, but surely, wealth will be redistributed. The state will increase its control of it. The per capita distribution will be far greater, in purchasing power at least. With the prevention of the right to double and treble itself at the expense of the public, capital will be spent more and more intelligently and with a cultural result. The architect must be ready for these changes and be worthy of his hire.

His education must be reconsidered; the public school system must stop robbing him in his early childhood of so much of his individuality. His professional training must imbue him with the spirit of service. He must be made more of a builder, more of a craftsman, more of a student of economics—all without losing a single bit of his artistry.

He must no longer be passive, he must become the militant idealist.

Book Reviews

Early Christian Iconography and A School of Ivory Carvers in Provence. By E. Baldwin Smith. Princeton University Press, Princeton. 294 pages. \$6, net.

No one is competent to write a critical review of a book like this unless he is himself a close student of the subject, and even then he would hesitate, for the author shows how misleading are inferences based on isolated examples.

But the book is true history, and therefore interesting, as is every vital document about the lives of our fellow-men. The best kind of history is that which presents the past to us so vividly that its actors seem like ourselves. It is true, because they undoubtedly were.

In this book we are brought into intimate contact, not with the actors themselves, but with the records they left, and as these records concerned the faith which was the vital force of the time, they are very important. To the lay reader one interesting thing is the frank use of the modes of expression of the time and the place. The mythology of Greece and Egypt, the symbolism, and the forms of artistic expression in vogue, were used in expressing the Christian faith (page 160). Another interesting thing is to find that so many of the accepted traditions of the church, one might almost say articles of faith, were slow developments, which had little or no place in the early Church: to find that Christmas, as the birthday of Christ, was of little moment in the early Church, as compared with the great fact that the Christ Child received, at the time of His birth, the adoration of the world: to find that the early Church put as much emphasis on the apocryphal gospels as on those which are now the only ones we know. Incidentally it is pleasant to find the enormously erudite

author using language as extravagantly as a gushing school girl, when in speaking of a primitive ivory he refers to a band with some scratches on it as "handsomely enriched with heavy embroidery."

There is very much more in the book than what its author undertook to put there; he has classified and traced the origin and motifs of the various sculptures and paintings, and, in doing so, has made a critical study of the sources of the beliefs and practices of early Christianity; and one cannot but wish that he had also reviewed and analyzed the conclusions that would be based on these things from the point of view of ecclesiastical history. The eucharist, associated so exclusively with the bread and wine of the gospel narrative and of the present liturgy, is here shown to have been symbolized also by the miracle of the loaves and fishes, and the miracle at Cana.

The latter half of the book is given to a study of a school of ivory carvers in Provence, and it is most interesting to an architect to recognize in the design and execution of a minor art that same mingling of east and west, which is found in the architecture of Provence, Syria, and Byzantium, side by side with Rome and the western tendencies. Also interesting to find that the cult of the Virgin came not from Rome but from Syria (page 202). One is sometimes inclined to believe that if we knew more about the very early days of the Church we would attach less importance than we do to many things that have served to keep Christians apart and to divide the followers of Christ into so many bodies. The book is valuable as the patient study of an expert in iconography, but it is also valuable as a vital bit of history.

R. CLIPSTON STURGIS.

Post-War Committee on Architectural Practice

Report of the Committee on Education

(NOTE.—The reports of most of the committees this year are, in effect, so closely related to the work of the Post-War Committee that it is likely they will be discussed at the Convention under the direction of the Post-War Committee. The following report, submitted to the Convention, has been amplified in the further reports made by the committee which has acted practically as the Subcommittee on Education of the Post-War Committee. This further report will be published as soon as the Post-War Committee is ready to make it public, and will be widely distributed among the profession in order that the conclusions reached by the Post-War Committee may be made the basis for recommending a reorganization of our architectural schools, that they may function in accord with those conclusions.—EDITOR.)

The Syllabus

“The Committee on Education is charged with the task of evaluating our system of education by measuring the result as expressed in terms of the architect’s service to client, community, and nation; and in the degree of honorable livelihood made possible to the practitioner by such education.”

The Committee has occupied itself exclusively with the instructions thus given it by the Board of Directors. The Committee has also prepared a statement to the Post-War Committee, containing the observations and arguments upon which the Committee bases its conclusions, which will be published in the Journal and distributed to the architects of the United States.

The first problem presented to the Committee was naturally that of establishing a basis of judgment. The question at once arises as to who is competent. If we consider seriously the character of our entire architectural environment, particularly in our urban centers, it appears that irrational purposes are clearly revealed as the dominant characteristic of modern life. Hence, public opinion, born of and nourished by irrational purpose, cannot be safely accepted as a criterion as to what should constitute the aims of the architectural profession. The purpose of architecture is to promote and support rational living; the great mass of architecture in our urban centers does not. For this condition the responsibility is general. In it the architect shares, for the profession as a whole has accepted the conditions and the program for buildings which are now developed by industrialism and capitalism.

It must be apparent, therefore, that we are presented with a dilemma. What should constitute the aims of education, both as to the creation and appreciation of architecture? The profession must either educate itself to conform to a standard and practice of building which is largely irrational,—thus forfeiting its claim to real leadership,—or the profession must educate itself actually to combat these forces as the only possible means of developing a rational architectural environment. The profession has failed, thus far, to make this choice and in consequence the aims of the active profession and of vocational education in architecture have become both vague and uncertain.

Generally speaking, educational policies have come more and more under the direct control of business men who naturally have a personal and pecuniary interest in the product of education, both general and vocational. Among the results of this condition we witness a narrowing of the field of general education and the throwing of an ever-increasing emphasis upon the assumed value of narrow vocational specialization. Thus the larger social purposes, which should appear as the aims of the profession, have been lost sight of, while the possibility of really effective collaborative effort among closely associated vocational groups has been almost completely defeated.

Early architectural education in America emerged in what may be termed an aristocratic atmosphere, though, strangely enough, it was launched under engineering auspices in schools of “higher learning.” The relatively recent exodus of American students to Paris and the journeying of the well-to-do to Europe gave an impetus to the production of better architecture and a new slant to educational policies and methods. These influences, it may be said, however, have not very materially affected, as yet, the character and the quality of that great mass of structures designed each year by those who are not recognized as belonging to the “educated” profession.

The character and quality of a relatively few buildings in our environment cannot furnish any clue to the average state of professional competence; nor can they be used as a basis of evaluating our system of vocational education. The degree of professional competence and the value of a system of vocational education must be judged, in final analysis, by the quality of all buildings.

Over the total mass of our architectural environment and its orderly arrangement in the planning of towns and urban centers, it may be said that the profession has exercised almost no control. Hence it may be assumed that our education, both general and vocational, has failed to accomplish what should be its major purpose.

In particular is this true of general education, including in this our institutions of higher learning, for it is to general education that we must look, not only to furnish the basis of intelligence upon which to develop vocational competence in architecture, but also that criterion of judgment and taste on the part of the public which will demand that the character and quality of all buildings be such as at least to promote rational living in our urban centers.

In our architectural schools the introduction to the vo-

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cational work is not so arranged as to insure the stimulation of individual growth and development; the introduction is in the nature of an abrupt change in direction. Practically all of the former experiences of the student are cast aside and a study of architectural forms belonging to an aristocratic culture of the past is substituted. This automatically establishes a criterion of taste utterly unrelated to modern life. Thus it appears to the student that the practice of architecture is a cultural activity completely removed from the affairs which concern the mass of people.

This introduction to professional activity, and the scale of values thereby established, very largely explains why the majority of the "educated" profession take but slight interest in offering advice on community or political action which has nothing directly to do with commissions. It follows, as a matter of course, that the public and government officials do not ask advice.

The almost universal practice of teaching design without any contact whatsoever with the world of reality, and of imposing purely academic judgments upon the work accomplished by the student, develops a set of utterly false values with respect to architecture and the function of the profession in the community. The majority of problems *do not even represent* genuine situations; they are not related to actual experiences; and the student thus engaged is never afforded the opportunity of actually testing his ideas by application in order to determine for himself their validity. Responsibility of thinking is thus completely suppressed by these false and artificial methods of rating or appraisal.

It is this artificial practice, rather than the omission of lectures upon ethics, contracts, the architect's responsibility, and sundry other matters related to the technique of practice, which accounts for that atmosphere of irresponsibility which is generally admitted to surround the writing of specifications, the submission of estimates, and the making of contracts, particularly by those who are young in their practice.

In general, what is known as "subject matter" used in the problems represents situations which are remote from any immediate social interest of the student. Thus architecture is made to appeal to the student as an arrangement of forms rather than an expression, *in form*, of a dynamic society having social aims and purposes. Is it not reasonable to assume that this condition in education shows largely why, in practice, the architectural profession seems somewhat isolated?

In many of our schools, vocational education is carried on in closely related subjects, but there is little evidence to indicate that collaborative effort is considered of any importance whatsoever. Professional antagonisms are actually fostered through academic jealousies. Vocational education, as now organized, is in a large measure responsible for the great diversity of aims which we find among architects, landscape architects, decorators, and engineers. The academic institutions, particularly those teaching subjects related to art, very generally condemn the products of the world of industry; but no action whatever is taken toward aiding the student to gain an understanding of our industrial problems which so vitally affect the production of architecture. This condition, in a large measure, accounts for the fact that the profession as a whole has left to other

groups and to individuals the work of developing that condition in industry in which the instinct of workmanship may find free expression, without which the production of art is utterly impossible.

Modern education revolves about a system of examinations, ratings, degrees, prizes, scholarships, and medals. These fixed artificial and secondary aims have been pushed into the foreground of educational activities and thus furnish the actual focus of the student's interest.

The result of this is that resourcefulness is suppressed rather than developed. And when we take into account the entire field of activities and interests which go to make up what we term the vocational education of the architect,—the traditional classic introduction to the work, the subdivision of activities into "subjects," the theoretical study of construction, the paper programs, the "problems" developed exclusively through empirical criticisms, the elaborate renderings, the examinations and judgments imposed by others and the aims of study as represented by "mentions," medals, and prizes, and the all-important *fact that not one of these educational experiences takes place in the world of reality*, where the architect must gain an honest livelihood,—when one takes all of this into account, is it not fair to conclude that about all that we have accomplished through this artificial educational mechanism is the development of clever draughtsmen who follow, not lead?

But we cannot allow this matter to rest with this destructive conclusion. How should we reorganize education? It is futile to attempt to establish a general criterion of taste or an appreciation of art through vocational training in architecture, or for that matter, by the teaching of drawing in schools and by the inclusion in general education of courses in "fine arts." In nothing less than a complete revision of general education lies our only hope. As a profession and as individuals we might acquaint ourselves with what such a revision means in terms of action to such educational leaders as John Dewey, and we might push this work along. Such a study would have, also, a great advantage in that it would give us an insight into educational technique which we might apply to our own education.

What we need above all, in the vocational field, is a restatement of aims; we cannot educate a profession by simply telling students *about* their responsibility to the client, the public, and the nation, or by telling them about office methods, or by training them to be skillful draughtsmen. Were we to include within our schools such courses as would relate to the subjects above suggested, our students would become merely clerks and office assistants, narrow with respect to aims, and irresponsible with respect to their functions.

What we must have—absolutely must have—is an education so staged that the student will learn by experience and contact with the work-a-day world as to what is actually meant by responsibility. He must be induced to find things out for himself and, as a result of his experiences, to come to his own conclusions. Is it possible to bring these actual experiences of the world into the schools of architecture? No one can possibly answer that question until it has been attempted.

And, above all, we cannot make the problems of the modern world vivid to the student by first drilling him in

copying classic architecture. All such subject matter as relates to this phase of architecture must be made to appear as material of reference to be made use of whenever occasion demands. Were we to introduce the student to his vocational experience by making use of his immediate architectural environment, and by stimulating his inquisitiveness concerning its derivation, and the possibilities which are inherent in the problem of making that environment more accurately expressive of a social ideal which he is quite capable of creating if given the opportunity,—if we were to bring him into actual contact with real problems and the difficulties encountered by the architects in developing our architectural environment, we would begin at least to develop an architect instead of a draughtsman. Confronted with real problems, he would attempt to find a real solution if we so organized the work that the judgments were real and not artificial.

We cannot dispense with specialization. The educational problem suggested, therefore, is: Who is to organize the specialized vocations concerned with building? Is it to be the business man or the architect? Surely, if it is our purpose to act as the organizer of that phase of building enterprises which have to do with design and construction, then one of the principal purposes in education would be to give the student an opportunity to gain his experience through actual collaboration with others, and so he would not work in isolation but in conjunction with those other professions which have to do with building. It is senseless to assume that we can effect collaboration by talking about it. It must be real, an integral part of education, for by no other means can the various professional aims be integrated and the spirit of common purpose developed.

And lastly, we must do away with the examinations and imposed judgments based generally upon presentation. The true aims of the profession should be clearly expressed by the tests which are set to win scholarships leading to further study. They should not all focus upon a single objective; opportunity should be afforded in a school of research for the architectural student, in collaboration with others, to study architecture and art, industry and government, and the complex forces with which we must contend in directing the growth of our environment.

MILTON B. MEDARY, JR.
 DWIGHT H. PERKINS
 FREDERICK L. ACKERMAN, *Chairman.*

The Washington State Chapter Suggests That the Post-War Committee Make an Exhaustive Investigation along a New Line

On pages 154-155 there is printed a diagram prepared by the Special Post-War Committee of the Washington State Chapter, in order to indicate, in graphic manner, the general conclusions of the Chapter's Special Committee, which are as follows:

"The line of activity suggested by the Post-War Committee on Architectural Practice (indicated on the diagram under A, B, C, with their extensions under 1, 2, 3, 4, 5, 6), discloses the fact, after careful analysis, that all the difficulties discussed and corrections intimated in the above classification, as bearing on the problem of improving the relation of the architect and the public are, in effect, suggestive of remedies every one of which has already been tried with but slight results, as reflected in the number of buildings entrusted to architects."

The report then goes on to say:

"In proportion to effort expended upon such remedies, the result has been decidedly disappointing. . . . The situation has deep significance. It shakes confidence in the idea that help is to be found where, most frequently, it has been sought. It suggests that search for the causes underlying the unfortunate condition of the relation of the public to the architect be undertaken *de novo*.

"What is the condition precedent to a satisfactory relation between the public—meaning either an individual or a collective client—and the architect?"

"Is it not a building project?"

"Might it not be well, then, to examine conditions which surround and are impressed upon building projects, in order to determine what, if any, may be their effect upon the relationship under discussion?"

On the diagram, under the letter D, the Committee of the Washington State Chapter has framed a series of questions, and at a special meeting of the Chapter, held on March 28, it was unanimously resolved that the Post-War Committee on Architectural Practice be asked to make an exhaustive investigation along the lines of the questions indicated under the letter D in the Chapter's diagram.

News Notes

Chapter Branch Groups

The report of the Committee of Chapter Branch Groups, Washington State Chapter, and carrying the approval of the Executive Committee, was adopted. It is as follows:

Under the existing Constitution and By-laws of the Chapter we recommend that a provision be made for the formation of local groups of not less than five members, in Tacoma and Spokane, to be known as the Tacoma or Spokane Group of the Washington State Chapter, American Institute of Architects. The members of these groups

to consist of associate members of the Washington State Chapter and members of the American Institute of Architects residing in the above-mentioned districts. These local groups may also associate with themselves a probationary class of members who shall be obliged to become associate chapter members within one year. This probationary class shall have no voice in Chapter business or right to the use of the title. We would recommend the remission of initiation fees for members applying for associate membership in the Chapter through these groups for a period of six months from March 1, 1919, and a reduction of dues to the members of these groups to \$5 per annum.

The American Housing Competition

Greatly to our regret it has been found impossible to hold a meeting of the Jury in the Housing Competition until early in May. Announcement of the winners will be made in the May Journal or will be given to the press early in that month.

Housing in England

"A Housing Department is being established. It is estimated to cost £90,000 a year. Major Prescott was curious about the appointment of Sir James Carmichael as Commissioner-General. He wanted to know Sir James' experience in housing and town-planning schemes. In his reply Dr. Addison was able to refer to Sir James' work on Reconstruction Committees, and to the fact that he was a Past-President of the Institute of Builders and London Master Builders' Association—the kind of answer which reminds one of the English-French grammar, where, in response to the question, 'Have you the knife of the butcher's nephew?' you are given the answer, 'No, but I have the penwiper of the gardener's wife.'"—*Architects Journal* (London).

Some Interesting History of the Early Use of Reinforced Concrete

In writing for the Journal an appreciation of Mr. Leon Dessez, published elsewhere in this issue, Mr. Ashford recalls the following interesting experience that befell Mr. Dessez in connection with the Century office building in Washington: "This is an eight-story office building designed in 1899 and constructed entirely of reinforced concrete. Walls, columns, floors and roof are all of reinforced concrete. The floor slabs, with spans of 20 feet, are also of the same material. At the time this building was constructed, now twenty years ago, this type of construction was a decided innovation and reinforced concrete used in such manner was practically untried. When application was made for the building permit, the Inspector of Buildings had no formulas or regulations covering such construction and appealed to the Building Departments of New York, Philadelphia and Boston for advice as to the proper design for such a building. New York replied, saying, 'The concrete system of construction is not recognized by the New York Building Law.' Philadelphia wrote, 'We have not, as yet, had presented to us any proposition to construct the walls of a building of concrete, and have not given the matter full consideration.' Boston wrote, 'Concrete construction is not recognized in said building laws except for the footings of foundations.' Mr. Dessez had presented, twenty years ago, a most complete set of plans for an office building about 90 feet high, with walls and all other structural features of reinforced concrete, and the Building Departments of four large cities acknowledged that it was the first example of such construction.

"The Inspector of Buildings of Washington noted on the application for a permit, 'I cannot stamp these drawings for the reason that they are not in compliance with the building regulations.' The matter was therefore forwarded to Col. D. D. Gaillard, Assistant Engineer Com-

missioner, who will always be remembered for his great services and sacrifices in the construction of the Panama Canal, and he endorsed on the application the following: 'The combination of iron and concrete is a type of construction which is apparently growing in favor, but, so far as I am aware, is not embraced in the building regulations of other cities as applied to walls of buildings. . . . So far as this city is concerned, this building must be regarded as experimental. . . . That the building be regarded as of an entirely new type.'

"The Engineer Commissioner, Col. L. H. Beach, placed upon the application the following: 'While the building is a new type of construction, it appears to be designed upon rational lines, and although not covered by the building regulations, I would recommend that permit be issued for its construction.' The building stands today as an almost indestructible example of Mr. Dessez's foresight and ability, and within the twenty years following its erection thousands of similar buildings have been constructed. Formulas and regulations have been made to guide others in the design of such a building after Mr. Dessez had first shown the way."

The Museum and Art

At the meeting of the Architectural League of New York on March 13 last, Lieut. de Ricci, a member of the commission selected by the French Government for the purpose of bringing the history of French art more prominently before the people of the United States, said in substance: "The mistake made by museum directors of today lies in exhibiting such quantities of one kind of article, of several periods, all in one room. The whole aim that should guide a museum is spoiled by this sort of poor judgment."

In referring to the history and progress of art in France, he said: "French art was controlled by the kings in power, and is designated by their names. The people were ambitious to imitate their sovereigns, and thus the ideas and styles of the kings had great vogue. In England, on the contrary, the styles took the name of the artist or craftsman, or even of the town where the work was produced." He illustrated his lecture with interesting specimens of work.

In closing he said: "I beg that the artists of today may remember that there is but one universal Art. Do not look despairingly on any one style. On the contrary, if artists would strive more toward making their work of benefit to the masses of mankind, they would do a great deal toward drawing them closer to the everlasting ideal of life, labor and the future."

Obituary

Arthur Durand Rogers

An understanding sympathy, a gentle courtesy bordering on courtliness, deep-rooted optimism, fearlessness coupled with innate modesty and an unswerving faith in his fellow-man, tempered with full appreciation of the element of human frailty in the efforts of our profession, were the outstanding characteristics of Arthur Durand Rogers which endeared him to the architects of America.

His breadth of vision, ever broadening, is typified by the

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breaking of the bonds imposed by the name "Brickbuilder"—limiting his field of activity to the clay products—that he might traverse the gamut under the all-inclusive title of the "Architectural Forum."

A frank but always kindly critic, his aim was ever to build up—never to destroy. Controversy, attack, nor inuendo never marred his spoken or published word, but by dignified suggestion he sought to alter policies and correct abuses—consistently, constructively.

An indefatigable worker, he maintained constant touch with the constructed work as well as the creative spirit of its designer by those periodical adverts which stand as milestones in the careers of so many of us.

Of all the wealth of endowments an All-wise Providence had vouchsafed him, he has left behind a goodly heritage. Whatever material capital he may have invested in his publication, it was the soul of the man, committed to the enterprise, that enriched it with a vital, living force.

"Loyal friend, courageous publicist, defender of the faith in all the fields of architectural effort, ardent purveyor of helpfulness to the younger men in whom his farsighted vision saw the Architect of tomorrow"—would be a fitting enumeration of his endearing characteristics which might be pronounced could such a degree be conferred upon him as Honorary Associate in the profession whose highest ideals were his guiding principles.

JOHN LAWRENCE MAURAN.

Leon E. Dessez

Elected to the Institute as a Fellow in 1896.

Died at Washington, D. C., December 25, 1918

Mr. Dessez was born in Washington, D. C., April 12, 1858, and was educated in the public schools. He began the study of architecture in the office of Hornblower and Poindexter, later Hornblower and Marshall, and was employed for three years on plans for the Washington Monument under direction of Colonel Casey, and for three years as architectural and engineering draftsman in the Navy Yard at Washington. In April, 1886 he began the practice of architecture in Washington. He designed many private residences in Washington City and in Maryland and Virginia.

Among the many public buildings designed by Mr. Dessez should be mentioned the Miner Normal School on Georgia Avenue and the Gallinger Hospital; at the time of his last illness he was employed on plans for the Soldiers Home Hospital. In 1909 he was employed with the Municipal Architect in the preparation of the plans for the workhouse at Occoquan, which has revolutionized the architecture of penal institutions and was the beginning of the so-called "open air" treatment for prisoners, who are housed in dormitories, with abundant light and air, and no cells, locks, or bars to suggest the ordinary old-fashioned prison.

In his profession he combined the enviable qualifications of the artistic designer with those of the technical structural engineer. The esthetic and practical were com-

bined in him to afford a real and useful architect and a credit to the profession. He was for a time vice-president of the Washington Chapter of the American Institute of Architects, and one of the charter members in 1887. He served on a committee for the restoration of the old Octagon House, now the headquarters of the Institute, and rendered other services for the advancement and improvement of the profession.

In 1908 he served, with no other remuneration than his self-satisfying consciousness of a service to the public, on a committee appointed by the Commissioners to revise the Building Regulations. This was an arduous task and with his assistance the District was able to publish in 1909 the first consistent and complete edition of the Building Code for the District of Columbia.

In 1908 he was appointed on a committee of architects and builders to inspect the public school buildings and report on their construction, general condition, and safety from fire. This service demanded about five months of his time and resulted in a most valuable report which was published by Congress as a public record for the benefit of the schools.

The foregoing but briefly and imperfectly records his career as an architect and a citizen. Volumes would not do justice to him as a man; all who knew him soon recognized his forceful character, his sincere frankness, his absolutely fearless stand for his convictions, his utter lack of selfishness, and his generous support of his friends. He was the personification of truth and honor and uprightness. The architectural profession lost a distinguished member, the city of Washington lost a useful citizen, and his friends lost a most reliable man when he died on Christmas Day, 1918.

SNOWDEN ASHFORD.

Owen Brainard

Elected to the Institute in 1907; to Fellowship in 1915

Died at New York City, April 2, 1919

Mr. Brainard was born at Haddam, Conn., in 1865, but went to New York City when still a boy. After finishing his education in the public and private schools, he entered the office of Carrere & Hastings, as their chief engineer, in 1893. He became a member of the firm in 1901 and remained with it until 1907, during which time he assisted in designing and supervising many notable buildings: the New York Public Library, the Senate and House office buildings at Washington, the extension of the United States Capitol, the Yale University memorial buildings, and the buildings at Cornell University.

In 1907 Mr. Brainard established a business of his own, since which time he has held many important commissions. Among the last things to which he devoted himself, under great discouragement, were some of the housing projects for the United States Housing Corporation. He was a member of the American Society of Civil Engineers, the Architectural League of New York, the City Planning Institute, and of the Century, Apawamis, and Engineers Clubs.

Institute Business

Nominations for Officers

For President, Thomas R. Kimball

TO THE SECRETARY:

We, the undersigned members of the American Institute of Architects, hereby nominate by petition, Mr. Thomas R. Kimball, of Omaha, Nebraska, to succeed himself as President of the Institute for the next Institute year, in accordance with the provisions of the Institute By-laws.

M. C. Chatten, George Beaumont, H. Webster Tomlinson, Richard E. Schmidt, John A. Nyden, Horace S. Powers, D. H. Burnham, Emery Stanford Hall, Irving K. Pond, Ivar Viehe-Naess, G. C. Nimmons, George W. Maher, N. Max Dunning, S. S. Beman, Henry K. Holsman, Frank E. Davidson, J. C. Llewellyn, Thomas E. Tallmadge, Dwight H. Perkins, J. L. Hamilton, William K. Fellows, C. H. Hammond, of the Illinois Chapter; Eugene H. Taylor, Chas. A. Dieman, H. E. Hunter, F. J. Heer, Walter O. Kruse, R. J. Clausen, Seth J. Temple, P. T. Burrows, Geo. H. Washburn, W. F. Weibly, G. M. Kerns, Frank E. Wetherell, W. T. Proudfoot, of the Iowa Chapter; Albert Kahn, Adolf Eisen, Charles Kotting, of the Michigan Chapter; Wm. B. Ittner, Louis LaBeaume, E. J. Russell, W. D. Crowell, L. B. Pendleton, David Stephen, Jr., Eugene S. Klein, William H. Gruen, Ernest Helfensteller, M. P. McArdle, Wm. A. Hirsch, J. N. Watson, E. C. Klipstein, Walter L. Rathmann, of the St. Louis Chapter.

For President, Thomas R. Kimball
For First Vice-President, Charles A. Favrot
For Second Vice-President, George S. Mills
For Treasurer, D. Everett Waid
For Secretary, W. Stanley Parker

TO THE SECRETARY:

We, the undersigned members of the American Institute of Architects, herewith nominate Thomas R. Kimball, for President; Charles A. Favrot, for First Vice-President; George S. Mills, for Second Vice-President; D. Everett Waid, for Treasurer; W. Stanley Parker, for Secretary.

Robert D. Kohn, H. VanBuren Magonigle, Frank Goodwillie, Ben J. Lubsch, F. L. Ackerman, Wm. O. Ludlow, Charles Butler, L. C. Holden, L. S. Butler, Donn Barber, H. Herbert Wheeler, Frank E. Wallis, of the New York Chapter; Wm. P. Bannister, Stephen W. Dodge, John B. Slee, R. H. Bryson, of the Brooklyn Chapter; C. L. Borie, Jr., M. P. Medary, Jr., C. C. Zantzinger, John Irwin Bright, Horace Wells Sellers, John Hall Rankin, Thomas M. Kellogg, of the Philadelphia Chapter.

For Directors, N. Max Dunning
Milton B. Medary
William B. Ittner

TO THE SECRETARY:

We, the undersigned members of the American Institute of Architects, hereby nominate by petition the following directors in accordance with the provisions of the By-laws: N. Max Dunning, of Chicago; Milton B. Medary, of Philadelphia; William B. Ittner, of St. Louis.

Henry K. Holsman, C. H. Hammond, E. S. Hall, George Beaumont, Horace S. Powers, Ivar Viehe-Naess, F. E. Davidson, Geo. W. Maher, Albert M. Saxe, Irving K. Pond, Allen B. Pond, M. C. Chatten, of the Illinois Chapter; Louis LaBeaume, E. J. Russell, W. D. Crowell, E. C. Klipstein, Walter L. Rathmann, Ernest Helfensteller, Jr., Wm. A. Hirsch, J. N. Watson, Eugene S. Klein, L. B. Pendleton, J. P. Jamieson, David Stephen, Jr., Wm. H. Gruen, M. P. McArdle, of the St. Louis Chapter.

For Director, Charles Coker Wilson

TO THE SECRETARY:

We, the undersigned members of the Institute, believing that the southeastern states should have representation on the Board of Directors of the Institute, and having a very high regard for the personal and executive characteristics of Mr. Charles Coker Wilson, of Columbia, S. C., a Fellow of the Institute, respectfully place his name before the members for nomination as a director.

Nat Gaillard Walker, H. Olin Jones, George E. LaFaye, Hugh E. White, J. B. Urquhart, J. Carroll Johnson, A. W. Todd, H. D. Harrall, J. H. Johnson, Edwin D. Sompayrac, R. C. Todd, of the South Carolina Chapter; Hill C. Linthicum, Erle G. Stillwell, R. S. Smith, Wm. H. Lord, Louis H. Asbury, of the North Carolina Chapter.

Proposed Amendments to By-laws

Under authority of Article XVI of the By-laws, as amended at the Fifty-first Convention, the Board of Directors proposes the following amendments:

Abolition of Committee on Public Information.

Since the duties hitherto performed by the Committee on Public Information, a Standing Committee, are now performed by the Committee on Publications, it is proposed that the Committee on Public Information be abolished, by omitting from Article XII, Section 1 of the By-laws, the name of this Committee.

Reduction in the Dues of Fellows.

In view of the present inequality between the dues of Members and Fellows, and its apparent inconsistency with the Convention direction that there be no distinction, other than an honorary one, between Members and Fellows, it is proposed that the first sentence of Section 2, Article V, of the By-laws be changed to read: "The annual dues of Members and Fellows shall be twenty dollars, payable within the month of January;" and that the second sentence be changed to read: "The dues of a Member, if elected in July or later, shall be ten dollars for the balance of the year."

General Reduction in Institute Dues.

The amendment suggested is as follows:

"Article V, Section 2.—The Annual Dues of a Member or a Fellow shall be Twenty Dollars, or such lesser amount, but not less than Ten Dollars, as the Board of Directors may determine. Annual dues shall be payable within the month of January. The dues of a Member, if elected in July or later, shall be, for the balance of the year, fifty per cent of the Annual Dues."

Reduction in Initiation Fee.

As consistent with the proposal to reduce the dues, it is proposed that the initiation fee be reduced, in the discretion of the Board of Directors, by means of the following amendment:

Article V, Section 1, change the first sentence to read: "The Initiation Fee of all incoming Members, except Honorary and Honorary Corresponding Members, shall be \$30.00, or such lesser amount, but not less than \$15.00, as the Board of Directors may determine." (Balance of this Section to remain unchanged.)

Removal of Age Limit of Architectural Draftsmen.

The present requirement that architectural draftsmen must be over thirty years of age to be eligible for Institute membership has been considered in connection with its effect in limiting Institute membership and keeping out the younger men.

It is therefore proposed that Article I, Section 1, be amended by striking out the words "over thirty years of age."

Taking of Office by New Officers.

The By-laws now provide that officers annually elected shall enter office on the first of January following their election. This was entirely correct when Conventions were held in December, but it is not consistent with the present procedure of holding Conventions in the spring. The following amendment is proposed:

Article X, Section 1, change the last sentence of this Section to read: "The Officers elected shall enter office upon adjournment of the Convention at which elected, and shall hold office until their successors qualify."

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Merging of House and Building Committees.

At present the House Committee, a Standing Committee, is identical in personnel and instructions with the Building Committee, a Special Committee. In consonance with a recommendation of the Building Committee the following amendment is proposed:

Amend Article XII, Section 1, by changing "House Committee" to read "Building Committee."

Structural Service Committee to be Made a Standing Committee.

In accordance with the instructions of the Fifty-first Convention, the Special Committee on Structural Service has considered such amendments to the Institute By-laws as will make effective any reorganization of its constituent committees that it may deem wise. It, therefore, proposes the two following amendments which have been approved by the Board of Directors:

Amend Article XII, Section 1, by adding the Structural Service Committee to the Standing Committees.

Change in Name of Committee on Contracts and Specifications.

Amend Article XII, Section 1 to the extent of changing the name of the "Committee on Contracts and Specifications" to "Committee on Contracts."

New Members Elected to the Institute

Christian A. Asmus, Nashville, Tenn.
H. W. Buemming, Milwaukee, Wis.
Arthur H. Ebeling, Davenport, Iowa.
Harry W. J. Edbrooke, Denver, Col.
Ferd. C. Fiske, Lincoln, Neb.
Russell E. Hart, Nashville, Tenn.
Henry C. Hibbs, Nashville, Tenn.
Joseph Washington Holman, Nashville, Tenn.
Thomas Scott Marr, Nashville, Tenn.
Harry W. Meginnis, Lincoln, Neb.
Walter R. McCornack, Cleveland, Ohio.
Arthur L. Pillsbury, Bloomington, Ill.
Henry T. Pratt, Boston, Mass.
Howard Dwight Smith, Columbus, Ohio.
Otto H. Thorman, El Paso, Texas.
Achille O. Van Suetendael, Washington, D. C.
John W. Weiss, Chicago, Ill.
Charles R. B. Zalesky, Cedar Rapids, Iowa.

Program of the Fifty-Second Annual Convention, Nashville, Tennessee, April 30, May 1, 2, 1919

Wednesday, April Thirtieth
Morning Session 9.30

The President Presiding

Convention Called to Order
Invocation
Address by His Honor, the Mayor
President's Address.
Treasurer's Report.
Report of the Board of Directors.
Report of Committee on Board Report.
Resolutions and Discussions.

Afternoon Session 2.00

The President Presiding

Morning's unfinished business.
Adjournment to the Parthenon in Centennial Park to view an exhibition of portraits and objets d'art arranged by the Nashville Art Association.
Informal Reception at the Parthenon at 5 P.M.

Evening Session 7.30

Milton B. Medary, Jr., Presiding

The Post-War Committee on Architectural Practice. (At all sessions of the Post-War Committee the privilege of the floor is extended to all practising architects.)

Address: A Professional Message. John Bell Keeble of the Tennessee Bar.

Statement: The Post-War Committee. N. Max Dunning, Chairman, Executive Council.

DISCUSSION—

- *(a) Extension of the Architect's Service.
- (b) The Architect as a Citizen.
- (c) The Status of the Architect.

Thursday, May First

†Morning Session 9.30

The President Presiding

Report of Committee on Credentials.

Nomination of Officers, Fellows and Honorary Members.
Election of Officers.

Polls open from 11 A.M. to 4 P.M.

Unfinished business.

Afternoon Session 2.00

N. Max Dunning Presiding

The Post-War Committee on Architectural Practice.

DISCUSSION—

- (d) Responsibility of the Architect.
- (e) Percentage Remuneration.
- (f) Supervision of Construction.
- (h) The Need for a More Comprehensive Service.
- (i) Organized Industry.

Evening Session 8.00

Robert D. Kohn Presiding

Post-War Committee on Architectural Practice.

DISCUSSION—

- (l) Architectural Societies.
- (m) Competitions.

Friday, May Second

Morning Session 9.30

The President Presiding

Unfinished Business.

Report of Tellers.

Immediately upon adjournment of the morning session, the delegates, members and guests will take motors for Belle Meade and thence to the Hermitage, the one-time home of Andrew Jackson, where there will be provided a barbecue and music by the singers of Fisk University.

Evening Session 8.00

Frederick L. Ackerman Presiding

Post-War Committee on Architectural Practice.

Discussion.

Education and Registration.

*The letters in parentheses refer to corresponding topics subdivisions in the circular issued by the Post-War Committee.

†As the program for Friday is dependent upon the weather the program for that day may be substituted after the election, due notice of which will be given.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS & SPECIFICATIONS, FIRE-PREVENTION, MATERIALS & METHODS, STRUCTURAL SERVICE

Temporary Discontinuance of Index

Beginning with this issue, the indexing of subjects discussed in this department is discontinued. No attempt will be made to classify the material until the Standard Construction Classification, upon which the Committee on Structural Service is at work, or some other classification, is adopted. The effort to use the classification inherited from the Structural Service Department of 1917-1918 has resulted in confusion. There is no relation between the subjects under discussion and the subjects dealt with under similar index characters in the old Structural Service Department; there is no reason why the issue number of the Journal should be the numeral of a major division in any construction classification.

The Committee on Structural Service has had a number of requests for copies of the complete classification, a portion of which was published in the Journal of February, 1919. With each copy has gone the request for criticism and suggestion. The Committee will send a copy of the tentative classification to the Secretary of each Institute Chapter with the suggestion that a Chapter committee be appointed to give the matter consideration and report back to the Committee on Structural Service.

Standard Indications and Symbols

In 1917, the Committee on Contracts and Specifications prepared a tentative set of standard indications for materials of construction. These indications were published on page 456 of the Journal, September, 1917. By agreement with the Committee on Contracts and Specifications, the Committee on Structural Service has taken upon itself the task of completing this work. It has also undertaken to bring the standard symbols for electrical equipment up to date; and to that end is cooperating with the National Association of Electrical Contractors and Dealers, the Consulting Electrical Engineers' Council, and, through them, with other interested engineering societies.

The Committee has also done some preliminary work on a set of symbols for plumbing fixtures.

The Committee will be greatly aided in its work on indications and symbols if architects will send to it any indications for materials of construction which are standard in their respective offices, or comment on the tentative standards published in the Journal of September, 1917.

Flooring (continued)

Tile, Cork

Characteristics

Floor-tile composed of highly compressed particles of new, clear cork have won peculiar favor as a flooring material. Floors of such material are noiseless under traffic, non-slippery whether wet or dry, and, when properly manufactured, laid, and cared for, have given satisfactory service, in some cases, for periods as long as twenty years.

These characteristics render cork-tile floors particularly suitable for churches, libraries, billiard-rooms, working-spaces in banks, hospitals, clinics, bathrooms, pantries, decks surrounding swimming-pools, gymnasiums and even bedrooms, where the cost is not prohibitive.

The material does not resist well the grinding erosion of traffic in elevators where passengers are continually turning around, or on ramps and steps where the shuffling of many feet results in the same kind of erosion. Nor can it be counted upon to withstand concentrated furniture abuse. There are numerous instances where the material has pulverized under bookkeeper's stools and desk-chairs which are constantly moved within a small radius.

Producers and Distributers

In the United States there are at present three producers of cork tile. They are: The Armstrong Cork Co., whose product has been sold and installed by David E. Kennedy, Inc.; the United Cork Co., who sold and installed "Crescent" tile through a subsidiary company; and the Chester Manufacturing Co., which distributed its product through various persons and firms under a number of trade names. The H. W. Johns-Manville Co. also manufactured the material for several years, but stopped producing it in 1913. Prior to 1914, negligible quantities of cork tile made in Germany and Portugal also found their way into this market. Shortly there may be a fourth producer.

It is understood that the Chester Manufacturing Co.'s product is now being sold exclusively by the Bever Co. With respect to the future distribution of the tile made by The Armstrong Cork Co., there are indications that the channels of distribution will be changed.

Manufacture

All domestic cork tile is made under the same process and of similar material. It is composed wholly of cork particles, compressed and baked. The characteristics which have won favor for cork tile as a flooring material are imparted to it by the use of new clear cork in its manufacture. Much emphasis has been laid on the necessity of using cork in the form of shavings. There is nothing to indicate that the form of the cork particles, that is, either flake or granular, has any effect on the life of the tile. "Shavings" is a term used in the cork industry to designate the waste from the manufacture of bottle-stoppers. It includes not only the parings from tapering the stoppers, but also what is left of the strips of cork from which the cylinders for stoppers are punched out. The whole of this waste is chopped up or ground and goes into the tile. Probably at least 30 per cent of it is distinctly granular in form, while the balance is in the form of flakes varying in thickness from that of paper to $\frac{1}{4}$ inch or more.

The importance of using nothing but "shavings" arises from the fact that bottle-stoppers are made only from new, clear cork, and consequently, the waste from their manufacture is the same material. Only new clear cork contains sufficient natural gum to act as a binder in the tile. If old or inferior cork is used, no matter what its form, a foreign binder would have to be introduced and the tile also would lack the characteristics which are sought and expected in the product.

The amount of cork compressed into tile form has an effect on the durability of the tile. The larger the quantity of cork used, the more it must be compressed, and vice versa. While there are no accurate data available, there is abundant evidence for the statement that both over-compressed and under-compressed tile are not so durable as tile composed of cork particles which have been compressed to approximately one-twelfth of their original bulk. Both over- and under-compressed tile fail in the same way, but from different causes. Surface-pitting is the first symptom of incipient disintegration. The tendency of the over-compressed cork particles to expand may reach an intensity sufficient to break the bond of the natural gum adhesive, especially when the gum on the surface is weakened by frequent washings with water containing alkalis from soap and soap-powders. Under-compressed tile is porous. It absorbs and retains moisture which ultimately destroys the gum adhesive.

The process of manufacture may be briefly described as follows: The ground cork is placed to the required depth in a steel mould, compressed under a steel mould-cover which is clamped in place, and the filled mould is then placed on a conveyor which carries it through a tunnel-like oven. The period of baking is from four to five hours, and the oven temperature is from 400 to 500 degrees Fahr., which temperature is held as nearly uniform as possible. The time of baking or the oven temperature may be varied to alter the color of the tile. Either longer baking or slightly higher oven temperature will produce a dark tile. The tile are made in three colors, namely, light, medium, and dark. There is, however, no uniformity of color, and the color classification is largely a matter of selection. Over-baking results in charring the cork, which kills it.

The baked slabs, which are usually 12 by 36 inches and 1 3/8 inches thick, are taken from the moulds and split on a band-saw. The saw-cut surfaces are the tile faces. The tile are cut from the split slab and are delivered, either sanded or unsanded, for laying.

Setting

Since water is the chief agent of destruction for cork tile, every possible precaution should be taken in setting to secure permanently tight joints. If water enters an open joint, it gets beneath the tile, breaks the bond between the tile and the base, and causes the disintegration of the tile from the under side. Two things are, therefore, necessary: First, the use of a water-resisting setting cement, and, second, that the tile be set under lateral pressure in both directions. This pressure should be sufficient to result in an actual compression of the tile amounting to 1/8 inch per foot in both directions. The setting cement used by responsible contractors for cork tile is made with a shellac base. Such cement sets quickly and retains its elasticity almost indefinitely.

When cork tile are set on a wood base, they are held in place with headless brads. When the tile is laid over concrete or other un-nailable base, they are weighted down with sand-bags until the cement is set.

The tile are laid sanded, or in the rough and sanded after laying. The sanded tile require some sanding after laying to remove surface inaccuracies at joints. The rough tile are surfaced with a floor-sanding machine. To such a machine there should be attached a vacuum dust-collector, otherwise the fine cork will be carried throughout a building.

Care

The treatment which cork tile receives has much to do with its life. Soap and soap-powders containing alkalis should not be used in cleansing it, for alkali attacks the natural gum in the cork which is relied upon to hold the cork particles together. Only neutral soaps should be used. Cork floors may be waxed or oiled.

The installation of **Cork Tile** by David E. Kennedy, Inc., is referred to on page xvii of the **Industrial Section**.

Terrazzo
Characteristics

Terrazzo is in reality a decorative concrete floor. The decorative characteristic is introduced by the use of colored marble chips in the wearing surface. Terrazzo floors behave in the same way as concrete floors, except that they are dustless, which is not true of many concrete floors because most of the latter are improperly compounded and laid. Terrazzo floors expand and contract, crack over supporting beams, and tend to warp in setting, just as do concrete floors. In terrazzo floors, as in concrete floors, satisfactory results are secured only through the employment of skill and care in laying.

Surface-pitting is not infrequently noticeable in terrazzo floors. This condition is due to the loosening of the marble chips, which, in turn, is due to the use of too much marble, or chips of improper size and shape. The quantity, size, and shape of the marble chips must be such that all of them, under proper tamping, will become thoroughly embedded. No formula can be laid down for securing these results. Skill and experience must be mainly depended on.

Terrazzo floors become highly polished under heavy foot-traffic. The material is a positive hazard to life when used on inclines and steps over which people pass hurriedly.

There is now laid a terrazzo floor in which the surface aggregate consists of chips of cast carbon crystals. The chips may be had in a variety of permanent colors, the color being introduced into the clay binder before vitrification. The use of such a material results in a non-slip floor.

Further information on non-slip terrazzo made with **Alundum chips** will be found on page xxxvii of the **Industrial Section**.

Laying

Terrazzo floors are laid in the same manner as concrete floors, except that after the concrete slab has been screeded the marble or other surface aggregate is sprinkled evenly and tamped. After the slab has set, the surface is ground smooth and true with a surfacing-machine.

Joints must be provided at frequent intervals, cut clear through the top and base slabs, to take up the expansion and contraction and prevent cracking. The so-called "checkerboard" method has proved highly satisfactory in eliminating cracking. This method consists of laying alternate squares of floor in wood forms, or curbs, and filling in the blanks after the first series of slabs has set. Joints are often concealed by laying over them two or more rows of marble mosaics, thus forming a pattern.

Terrazzo Tile

Terrazzo tile are being more and more used. They are made in steel molds, cast under pressure, and laid like marble tile, in a bed of mortar with the joints either pointed or grouted.

FINISHED FLOORING WOOD,
Condensed Data from Standards Adopted by Species Associations

SPECIES	FACE WIDTH (FINISHED)	THICKNESS	GRADES	NAILS AND MAXIMUM SPACING
Maple } Beech } Birch }	1 1/2", 2", 2 1/4", 3 1/4" 2", 2 1/4", 3 1/4" 3/8", 1", 2", 2 1/4" 1 1/2", 2", 2 1/4"	3/8" 1 1/8", 1 1/4", * 1 1/2" 3/8" 1/2", 5/8"	Clear, No. 1, Factory Clear, No. 1, Factory Clear, No. 1 Clear, No. 1	8d. cut floor-brad, 16" centers 10 and 16d.* floor-brad, 16" centers 3d. wire floor, 9" centers 3d. and 4d.* casing, 12" centers
NOTE.—There are also the following special color: White Clear Maple, Red Clear Beech and Red Clear Birch.				
Yellow Pine—edge grain Yellow Pine—flat grain	2 1/4", 2 1/2", 3 1/4", 5 1/4" 2 1/4", 2 1/2", 3 1/4", 5 1/4"	3/8", 1 1/8", 1 1/4" 3/8", 1 1/8", 1 1/4"	A, B, C, D, No. 1 Common A, B, C, D, Nos. 1, 2, and 3 Common	8d. cut floor-brad for 3/8" thick. (All 16" centers) 10d. cut floor-brad for 1 1/8" and 1 1/4" thick.
NOTE.—Edge grain yellow pine, free from face edge grain.			sap on face side, may be secured by specifying: "heart"	
White Oak—quarter sawed Red Oak—quarter sawed White Oak—plain sawed Red Oak—plain sawed	{ 1 1/2", 2", 2 1/4" 1 1/2", 2" 1 1/2", 2", 2 1/4" 1 1/2", 2"	3/8" 3/8" 3/8" 3/8"	Clear, Sap Clear, Select Clear, Sap Clear, Select Clear, Select, Nos. 1 and 2 Common Clear, Select, Nos. 1 and 2 Common	8d. cut floor-brad, 16" centers 3d. wire floor, 10" centers 8d. cut floor-brad, 16" centers 3d. wire floor, 10" centers
N. C. Pine—edge grain N. C. Pine—flat grain		3/8", 1 1/8" 3/8", 1 1/8"	Nos. 1 and 2 Nos. 1, 2, 3, and 4 Nos. 1, 2, and 3	8d. cut floor-brad for 3/8". (All 16" centers) 10d. cut floor-brad for 1 1/8" 8d. floor-brad, 16" centers
Gum Douglas Fir—vertical grain Douglas Fir—flat grain	2 1/4", 3 1/4", 4 1/4", 5 1/4" 2 1/4", 3 1/4", 5 1/8" 3 1/4"	3/8" 5/8", 3/4", 1 1/8" 5/8", 3/4", 1 1/8", 1 1/4"	Nos. 1 Clear, 2Cl, 3Cl Nos. 2 Clear and better, 3Cl, 4Cl	
†Western Hemlock—ver. gr. Western Hemlock—flat gr. ‡Spruce	Same dimensions, grades and nailings as		for Douglas Fir	

†Western Hemlock is a very different wood from eastern Hemlock. The vertical grain particularly makes a durable and attractive-looking floor.
‡Spruce is too soft to give satisfactory service as material for finished floors. Its use is not recommended by the West Coast Lumbermen's Association.

STRUCTURAL SERVICE DEPARTMENT

Daylighting and Artificial Lighting of Buildings

(Written for the Journal by BASSETT JONES)

In factory buildings, office buildings, and the like, lighting, both natural and artificial, becomes of primary importance. The building is useless and bad in design, no matter how much good taste may have been lavished on its structural proportions and decorative features, if suitable and efficient illumination is not always available both by day and by night, and, by day, independently of the sky conditions.

Yet, observation will show that many such buildings are either inadequately lighted or improperly lighted, or both, both by day and by night. In fact, many buildings are better lighted artificially than by natural daylight, because no attention has been given to the proper orientation of windows or skylights, their proper glazing or to proper proportions of windows with relation to the work expected of them.

Apparently, most architects proportion window-area to floor-area by some perfectly arbitrary rule-of-thumb procedure which makes no allowance for the position of the window with relation to the area to be lighted, or to the relation of the window to the primary light-source, which is the sky.

The amount of light received at any point on the area lighted by windows is governed solely by the amount of sky-area that can be seen from this point and the sky brightness, or by the area of luminous surfaces, such as brightly lighted light-colored walls or other area that can be so seen.

If the sky or other equivalent surfaces cannot be seen at points far removed from the windows, then auxiliary devices for reflecting part of the light from the sky must be used at the window to properly distribute the light.

The window thus becomes a light-source and should be treated as such. Unfortunately, it rarely is so treated. In the first place the window is wrongly located. The human eye is not adapted to receive only horizontal light, and, furthermore, it is not fitted for use where the areas of maximum brightness are constantly within the field of vision. When such conditions hold, the eye is under constant strain, and, being thus partially blinded, requires more light than when the maximum light comes from above and the brightest areas are on the ceiling. The result of this condition is that every kind of device from awnings to shades are used to prevent excessive glare and discomfort.

As windows are usually installed and equipped, and where, as is common in city buildings, the sky-zone is much restricted by surrounding structures, by far the larger portion of the light received is thrown on the floor where most of it is absorbed by the dark floor-surfaces. If, in order to conserve the light, the floors were white, or even light-colored, something like snow-blindness would result. When, in addition to dark floors, the walls are dark, the light received at any point is practically restricted to that coming directly from the window, producing sharp and dark shadows, and, in addition, there is little useful light available except closely adjacent to the window. Highlights are sharpened, producing strong brightness contrasts, and specular reflection (as from a mirror) is increased, producing glare. Diffusion of light, so necessary to eye-comfort, is lacking.

An ideal window should be equipped with devices which reflect the light entering the window and distribute it over the ceiling, which then should be treated so as to re-reflect the light downward and diffuse it with as little loss as may be. The brightness of the window-area would then be reduced to a point where it would not interfere with the proper functioning of the eye.

Furthermore, the window should be so located and proportioned that the necessary and proper sky-area would be visible from it, in order that the required amount of light would be available.

A room equipped in this way is far more comfortable to work in than a room provided with the usual windows, even when shades or awnings are added.

When, in addition to the window equipment suggested above, including highly reflecting and diffusing ceiling finish, the walls are light-tinted with a diffusing coating, the amount of light admitted by the windows may be materially reduced and smaller windows employed, permitting better exterior design and appearance.

As will be pointed out below, the amount of light required, whether natural or artificial, is controlled by the reflecting character of the interior coatings and the form of light-distribution.

In the course of a recent article on Standardized Distributing Systems (*G.-E. Review*, Vol. XXI, No. 4, p. 299), the writer drew attention to the effect of wall and ceiling treatment on the efficiency of illumination. In the same place mention was made of the fact that, with proper treatment of interior surfaces, it was possible to find in the room or interior more total light flux than the lamps generate. The same remarks are true of natural daylight admitted by windows, for windows function as lamps function in artificial lighting.

At first glance this statement may seem to the reader inconsistent with some of the most fundamental physical concepts. But any such seeming inconsistency will disappear if we permit ourselves to realize that light is only a form of radiant energy and proceed to consider the parallel problem in heat, namely, an enclosure of variable heat-insulating qualities into which so many thermal units are introduced every second by means of some form of radiator. Obviously, if the insulating qualities of the enclosure are such that no heat can escape, the entire enclosure

will continue to rise in temperature until it reaches the temperature of the radiator, after which, if the emission of heat by the radiator is merely a function of temperature differences, and the temperature of the radiator is constant, no further heat can be introduced by this means.

If, now, we proceed to explore the interior surface of the enclosure with an instrument, such as a bolometer that measures incident heat, and if we compare the amount of heat incident on the entire surface with the amount entering through the radiator and call their ratio "utilization factor," we shall reach the conclusion that the utilization is infinitely great, for no heat is entering and a very large amount is incident on the enclosure.

Next, let the insulating qualities of the enclosure be defective. Then the temperature of the interior will rise to a point where the amount of heat escaping, due to the difference in temperature between the inside and the outside of the enclosure, exactly balances the amount of heat admitted to the enclosure by the radiator. Obviously, the amount of heat emitted by the radiator is a function of the difference between its temperature and that of the enclosure. Thus a balance is established for every possible value of enclosure temperature, this balance occurring when the temperature of the enclosure is such that the amount of heat lost is exactly the amount of heat emitted by the radiator.

Now let us substitute a source of light for the radiator; let us consider luminous radiant energy, and convert the heat-insulation enclosure into one that will reflect more or less of the light incident upon it. If the reflecting value of the enclosure is such that it reflects all the light incident upon it, obviously none can escape, and the amount of light in the enclosure will increase indefinitely because the amount of light present has no effect on the amount emitted by the source.

If the enclosure absorbs some light, then when the total light-flux absorbed is equal to that generated by the source, the amount of light-flux in the interior will cease to increase.

It may well be that when this condition of equilibrium is reached, the amount of light-flux incident on the interior surface of the enclosure, only a fraction of which is absorbed, will be many times the amount of light-flux emitted by the source.

The computations of all cases of lighting, both natural and artificial, eventually reduce to just this case, namely, to the problem of determining just how much light-flux must be liberated in an enclosure so as to maintain within it a given amount of flux.

Evidently the light-reflecting character of the surface of the enclosure alone determines how much light-flux must be introduced in order to maintain any desired intensity of light. The method of producing any desired distribution of the light-flux over the interior surfaces is another problem. Obviously, those portions of the surfaces on which a large amount of flux is incident should have maximum reflection factors if the amount of light generated is to be kept at a minimum.

A case was computed in the article above mentioned, where the walls and ceiling of a hypothetical interior showed 100 per cent reflection factor and the floor but 25 per cent reflection factor. It was shown that the light-flux incident on the floor would be 1.33 times the flux emitted by the light-sources. In the case of the Bloomfield building of the Sprague Works of the General Electric Co., the amount of light-flux incident on the test-plane was 1.04 times the flux generated by the lamps. In the usual Childs' Restaurant probably 1.5 times the amount of light generated by the lamps can be found on the plane of the table-tops. Therefore, in a Childs' Restaurant, about 80 per cent of the amount of generated light-flux used in the Bloomfield building would be required to produce the same incident flux on the table-plane.

Perhaps it is possible to sum up the argument by saying "for every lumen (unit of light quantity) not absorbed, one less lumen need be generated or admitted through the windows."

Every properly designed lighting arrangement must fulfil certain requirements set by the eye, for eye efficiency bears directly upon our value as working organisms, whether we be draughtsmen, clerks, or factory hands.

The eye sees brightness,—if, for the present, we do not consider color,—but brightness is merely a visual sensation—a mental phenomenon. The sensation of brightness is aroused by a physical phenomenon, namely, the quantity of light emitted by or reflected from a luminous surface.

Arrangements of lighting that will introduce abnormal sensations, or sensations for which the eye is not adapted, are to be avoided. Marked brightness contrasts produce such sensations. But brightness contrast is a matter of relative values rather than absolute values. A candle in a dark room is blinding, while the most powerful incandescent lamp in a white room is bearable. The design of an optically correct and visually efficient lighting arrangement is more a matter of distribution of light than of its quantity.

From the viewpoint of artificial light distribution, the lighting system does not stop at the fixture. In artificial lighting, as well as in daylighting, the ceiling and wall-surface in a room, as secondary sources of light-receiving and reflecting light from lamps, are generally of greater importance than the fixtures.

If we aim to avoid objectionable brightness contrast and eye-strain, such as will be produced by a brilliant direct light-source or window area against a dark ceiling or wall-surface, the problem of efficient lighting, combined with maximum eye-comfort, is almost wholly a matter of reflecting surfaces. No visible surface in a room, including the window-

surface, should have a brightness of much more than $2/10$ (0.2) candle per square inch, and preferably somewhat less. Furthermore, the maximum brightness contrast must not exceed 100:1. But the reflecting value, or coefficient of reflection, of the ceiling and wall-surface, principally the ceiling-surface, regulates the amount of light that must be let loose, so to speak, in the room to produce the surface brightness required. In other words, the reflecting and diffusing quality of the ceiling- and wall-finishes bear directly on the question of energy efficiency.

(Fixture design and the distribution of light-sources, is, of course, an important consideration in connection with any lighting problem, but this discussion relates to the treatment of reflecting surfaces and not to primary light-sources. Fixture types and fixture efficiencies will not, therefore, be referred to beyond the statement that the study of eye-efficiency, avoidance of brightness contrast, correct surface brightness, and the correct position of light-sources have led directly to the development of the semi-indirect lighting system, considering the distribution of light apart from the question of fixture types. In such a system not less than 85 per cent of the total working illumination should be received from such secondary extended light-sources as the ceiling and walls.)

In an experimental room $13\frac{1}{2}$ by $13\frac{1}{2}$ feet in plan, with a 14-foot ceiling height, using one center outlet and incandescent lighting, it has been found ("Illuminating Efficiency," Ward & Harrison, Trans. I. E. S. 1916) that when the walls showed a coefficient of reflection of 42.5 per cent, changing the coefficient of reflection of the ceiling from 50 to 80 per cent increased the illumination on an arbitrary plan 3 feet above the floor 68 per cent. Tests on various arrangements of the room, both in dimensions and outlets, gave comparative values. These values compare well with the measurements made by Sharp and Millar and by Rolph.

Similar tests carried on by the writer under working conditions in many rooms, tinted in different ways and lighted by properly designed semi-indirect fixtures, leads him to believe that, generally speaking, where wall-finishes show a coefficient of reflection of 50 per cent, changing the coefficient of reflection of the ceiling from 50 to 80 per cent will increase the working illumination 50 per cent.

These observations show that we are dependent on the ceiling for most of our light—about 60 per cent of it where the ceilings are light and the walls slightly tinted. But we do not want to see images of the lamps in the ceiling, or glare is introduced with its attendant eye-strain, so a flat finish is almost essential. We wish to lose as little of the light as may be, so a dense surface is required—dense, so that the light cannot get into the surface and thus be absorbed; and white, because tinting markedly reduces its reflecting value.

If due allowances are made for dirt accumulations, ageing, etc., and for the fact that paints having 80 per cent reflection coefficient are not generally obtainable, we may safely say that the differences between well-painted white ceilings and ordinary light buff ceilings amount to between 20 and 30 per cent of the illumination. This is conservative. With the proper selection of paint, proper application, and proper preparation, these values may be increased.

From what has now been said, it must be obvious that with properly designed, glazed, and equipped windows, and when the interior surfaces are properly treated, it should be possible to provide artificial lighting whose quality, distribution, and intensity are closely similar to the natural day-lighting. The two can be made to work together so as to produce practically the same results. One can be used to reinforce or replace the other without establishing an entirely new set of conditions to which the eye must adapt itself—often resulting in strain that if maintained is a source of permanent injury.

For illustration of **Diffuselite Blind**, see pages xxii-xxiii, **Industrial Section**.

See General Electric Co., Structural Service Book.

Proper Glazing of Hollow Metal Fire Window Sash

(Written for the Journal by A. R. SMALL, Vice-President and Superintendent Label Service, Underwriters' Laboratories)

One of the advantageous features in the methods of manufacture and assembly of hollow metal window frames and sash for wired glass, which is of immediate interest to architects, is its flexibility as to both horizontal and vertical dimensions. The sheet-metal worker is able to adjust his dies and brakes to provide for variations in these dimensions as closely as $\frac{1}{4}$ inch. It accordingly becomes unnecessary for the draughtsman to give consideration to standardized dimensions of windows in laying out the light-lines and other features affecting the appearance of the building wall. They are free and proceed to demand of the window manufacturer assembly of units of whatever may be the special and individual dimensions for the several wall-openings under consideration. The advantage of this flexibility of window manufacture is offset to some extent by the practices, later described, which have been permitted to grow up in connection with the installation of the glass in these windows, particularly in the larger centers, such as New York and Chicago.

The primary function of the window frame and sash is to hold the light of wired glass. The occasion for using wired glass is almost exclusively its value in resisting moderate fire-exposure. As a matter of fact, it is often relied upon to resist severe fire-exposure and succeeds in doing so successfully in a great many instances. Measures which defeat the primary object of the use of wired glass and the use of hollow metal frame and sash are obviously not economical and should be one of the items

in which an architect serves his client in exercising professional knowledge in the direction of providing the necessary precautions and safeguards. Wired glass is of considerable weight, and, as mounted in the sash of hollow metal window frames, is supported because of the bearings which are provided in the grooves of the sash members, such as the stiles and rails and the muntins or vertical division members, when these are provided. When subjected to fires of even moderate severity, the glass becomes softened (it melts at around 1,700 degrees Fahr.) and being soft, is likely to sag down of its own weight and to pull itself from the grooves. When this has proceeded to any material extent, the efficiency of the glass and the window assembly as a whole, as a barrier to the spread of fire to the interior of a building in which it is installed, is lost.

Experience of many years and detail experiments conducted at Underwriters' Laboratories demonstrate that the extent of the bearing of a light of glass in the grooves of the sash member has a definite relation to the area of glass and its maximum vertical dimension. A formula has been worked out to guide engineers of the Laboratories' staff in determining upon necessary bearings or depth of groove in sash members to be provided. This formula is applied within the present limits of 720 square inches of exposed glass area and 54 inches in either linear dimension. These familiar limitations have been thoroughly well demonstrated by long experience to be approximately correct with the nominal $\frac{3}{8}$ -inch depth of sash member groove and expected $\frac{3}{4}$ -inch bearing of glass in the groove required by the Standards of Underwriters' Laboratories for fire windows of labeled patterns.

Until several years ago it was almost the universal practice for the window manufacturer to furnish the glass for the sash and to install it. When windows were furnished for buildings being erected within cartage distance of the factory, the glazing was done at the factory. When railroad transportation was necessary for window frames and sash between the factory and the building where devices were to be installed, all glass was cut and shipped separately and installed at the building after the windows were bricked in, but in most cases under the individual direction and responsibility of the window manufacturer. In recent years it has become the practice to give the contract for glazing all fire windows to the glass jobber or contractor and to limit the window manufacturer's responsibility to the sheet metal work only. This does not work out satisfactorily because of the lack of responsibility of the glass manufacturer or dealer for the performance of the completely assembled unit when and if fire occurs. It is the window manufacturer who will suffer loss of good will and who will feel responsibility for failure of windows to protect buildings from exposure to fire if the glazing is not done correctly. That there is a very obvious incentive for the glazing contractor or jobber, in view of this lack of responsibility and lack of danger to his good will, to perform the glazing work incorrectly is present in the flexible dimension practices described in the early part of this text.

Glass is sold, and its prices and costs are figured on the basis of the nearest inch of width or length. If, because of the architect's design of the dimensions of the window opening and of the window manufacturer's adherence to his specifications, it develops that a glass light should be $20\frac{3}{4}$ inches wide, edge to edge of glass as cut, this to provide for the $\frac{3}{8}$ -inch bearing of the glass on both vertical edges, it will almost invariably be found that the glass jobber or glazer, in order to save the charge for the extra inch of glass, will cause his material to be cut on a 20-inch size rather than $20\frac{3}{4}$ -inch, thereby taking away $\frac{3}{4}$ inch of bearing from each edge. The $\frac{3}{4}$ and $\frac{3}{8}$ inch figures are taken merely for example. The condition which they illustrate can be duplicated in other fractions of inches, either for the horizontal dimension of a glass light or for the height.

It thereby comes about that the glass jobber saves this extra inch of glass and the cost involved in the present method of figuring glass prices. The window manufacturer, when invited to figure for furnishing the glass on the job, conscientiously follows the requirements of the Laboratories as to bearings to be provided, and, as a matter of fact, is required to do so as a condition of continuing the Laboratories' endorsement and label service for his product. It therefore works out that he is seldom, if ever, able under present conditions to give a figure which will be as low as that which the glass jobber gives, and that, furthermore, the jobber, not being held responsible or in any way counterchecked as to the dimensions of the glass actually furnished, installs lights which in many cases have such bearing in the grooves of the sash members as to invite very early failure of the glass when subjected to fire-exposure conditions.

Architects and others who may be responsible for the specifications for the installation of hollow metal fire window frames in buildings and for the furnishing and installation of the wired glass necessary to complete them are urged to give careful consideration to their responsibility to the building owner, to the window manufacturer's readiness to admit his natural responsibility and risk of good will, and to his willingness to assume the complete responsibility for the correct glazing of these devices. It is urged that, wherever possible, the window manufacturer be given the glazing contract in order that the few dollars which may be saved to the general contractor or the building owner from giving the wired glass contract to the glass jobber or dealer who may be successful in securing the contract for the plain glass equipment throughout the premises, shall not jeopardize the entire investment in fire window equipment. In any event, the window manufacturer should be called upon by the architect or the property owner to certify to proper glazing, and contracts with the glass jobber, if given to him, should be conditional upon the window manufacturer's approval of the job.

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American Housing Competition Award of Prizes

The American Housing Competition, inaugurated by the Journal of the American Institute of Architects and the Ladies' Home Journal, has been judged by the Jury and on May 6 two second prizes of Five Hundred Dollars each were awarded to:

Milo Hastings, New York City

Robert Anderson Pope, New York City

In making this award of two second prizes, the Jury was governed by the fact that, while the theses submitted, in both cases, offer a thorough analysis of the causes and cure for the housing problem as it now exists in the United States, the physical plans submitted did not fully provide for the application of the principles set forth in the theses. It was therefore decided to award two second prizes, since the Jury was unwilling to make a discrimination between the theses of Mr. Hastings and Mr. Pope. Of the other twenty-nine submissions, those of merit contained analyses and solutions which largely coincided in principle with those to which the two second prizes were awarded, but failed in quality of presentation.

The two theses will be published in the Journal in the June and July numbers.

The competition has involved a most arduous duty on the part of the Jurors, each of whom was called upon to read and weigh carefully the thirty-one manuscripts and then to consider the drawings submitted as in support of the theses. The Journal takes this opportunity

to express its gratitude to the Jurors, who were as follows: Louis F. Post, Assistant Secretary of Labor, Washington, D. C.; Herbert Quick, Farm Loan Board, Washington, D. C.; Thomas Adams, Town Planning Advisor to the Commission of Conservation, Ottawa; Lawson Purdy, Charity Organization Society, New York City; Mrs. Edith Elmer Wood, Philadelphia; Frederick L. Ackerman, Architect, New York City; Milton B. Medary, Jr., Architect, Philadelphia; *James Sullivan, American Federation of Labor, Washington, D. C.; Thomas R. Kimball, President of the American Institute of Architects, Chairman, Omaha.

It will be remembered that the competition called for the submission of two theses, one on the social purpose which should govern any attempt to solve the housing problem, and one on the economic method of achieving that purpose. The winning solutions will be offered to the people of the United States as contributions which attack the problem fundamentally, both as to cause and cure, and relate it to our whole social and industrial organization.

*Absent in Europe and did not participate in the judgment.

The Fifty-second Annual Convention

THE Fifty-second Annual Convention of the Institute was held in Nashville, Tenn., on the 30th of April and the 1st and 2d of May last. Thanks to the generous courtesy of the Governor of Tennessee, the Hall of Representatives was made available for the sessions. A portrait of William Strickland, the architect of the Capitol building, hung behind the speaker's chair, and served to remind those present of the brief period of the Institute's existence, in comparison with our architectural records, for Strickland died in 1854, three years before the Institute was founded.

No sessions within the memory of the writer were so well attended as those of this Convention. Most of them were given over to a discussion of the work of the Post-War Committee and were related to subjects which, on the face of them, might well seem not only dry, but outworn, so long have they been before the members of the Institute. On the other hand, it was apparent that the delegates to the Convention had come with an earnestness of purpose amounting at times to a nervous intensity. The first session revealed this very clearly. It developed a critical attitude unusual in character. Nothing connected with the profession or the Institute was allowed to pass or suffered to escape. An outsider might well have felt that he was attending a rather mournful requiem, and that the profession of architecture had found itself guilty of so many sins, both of omission and commission, that the time had come for a funeral service.

As the sessions of the Convention progressed, the whole spirit changed. The intense earnestness manifest at the beginning was maintained throughout all the sessions, but quickly transformed from the hyper-critically destructive to the critically constructive basis.

The sessions of the Post-War Committee seemed to increase in interest. As time wore on, it became evident to all those in attendance that the character of this particular Convention was remarkable in cohesion of purpose. There were widely differing opinions on all subjects, even concerning the question of whether the architectural profession required to be analyzed

and studied, but the majority of opinion was clearly registered when, by a vote that was apparently unanimous, the Convention approved the work and purposes of the Post-War Committee, directed it to continue at its task, and, by a two-thirds vote, authorized an appropriation for its use, not to exceed \$10,000, the amount to be borrowed from the Reserve Fund. While there was opposition to the principle of borrowing from the Reserve Fund for such a purpose, comment by the speakers in opposition indicated approval of the Post-War Committee.

Were one to try accurately to characterize this Convention as distinguished from preceding ones, one undoubtedly would find the basis for difference in the effect which the war has produced upon the minds of men. The very intensity of the first session was clearly a reflection of the fact that never before within the period of a year's time had the members of the architectural profession been thinking so deeply and so seriously. If there were some who had escaped the impact of a world disorder and who felt that everything would soon settle down so that life might resume its old customs and ways, they were a minority too small to make any impression. The spirit of the Convention was clearly that born of a resolve to improve and of a demand that means and methods be instituted through organized and coöperative effort to the end that architecture might play a better and a larger part in the needs and in the service of mankind.

It is only possible, at this moment, to sum up briefly the major notes that were struck at this Convention. On this subject opinions will vary according to the interests of those who listened to the discussion. To the writer it seemed that the address of the President, together with his remarks at the opening session of the Post-War Committee, were two fine variations of a great theme. Another was the happy and spontaneous address of Mr. Magonigle on the subject of education.

Of quite a different character, yet perhaps possessing a significance no less profound, was the report of the Committee on Jurisdictional Disputes. Here is held out the almost certain

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promise that a way has been found for putting an end to the costly delays of such disagreements.

The address of Mr. John Bell Keeble, of the Tennessee bar, was perhaps the most memorable event of the whole Convention, and, to my mind, the most remarkable address at any Convention that I have attended. It swept like a great harmonious piece of orchestration over the whole scale of the professional relation, a scale built up through the silent, patient, and mostly obscure devotion of men who have worked in all callings and through all ages, true servants and faithful disciples of the professional idea.

But all of the sessions were characterized by discussions and addresses of an unusually high

order, and the Proceedings of the Convention will offer a record of such interest that we venture to hope that all of the discussion at the sessions devoted to the Post-War Committee will this year be made available to all the architects of the United States, as a part of the contribution of the Post-War Committee, and as a means of diffusing information and stimulating interest.

At this moment it is only possible to record the principal actions of the Convention as affecting the organization of the Institute and its work. The full story can only be told in the Proceedings although we hope to publish further supplementary particulars in the June issue of the Journal.

The President's Address

The President's address at the opening of the Convention was devoted to the question of the professional idea, when he spoke, in part, as follows:

On every side we meet the word "professional." It crops up in most unexpected and unaccountable places, and strange associations. In the circular of our Post-War Committee we find it used in connection with and to define a recently assumed attitude of the contractor toward his work, wherein, under the guise of a growing professional tendency, he seeks to disguise a desire to shirk old and irksome responsibilities. Almost over night our friends, the brokers in real estate, have put on, together with a general clean-up and new paint, the title "Realtor" and a claim to complete graduation into the class professional. I call this a sign of the times, and a distinctly unpromising one—one I attribute to those among us who, for the sake of a theory more Utopian than professional, would have us believe that commerce itself is in line to take on the garb of unselfish service, in spite of the margin of profit for which it exists.

I would sound a warning against the tendency for which this post-war sign seems to stand. If professionalism is to be protected from such exploitation—indeed if it is to endure—I believe its disciples must awake to this and the other menaces of the all-absorbing commercial tidal wave that seems to be upon us, and which, if history really does repeat, should warn us of that never-failing visitation of force which is the

only answer when the selfish control of the necessities of life reaches high-water mark.

It is a pet fancy that it might pay to oppose the commercial menace through organization of the one thing that has never yet been organized, the one thing that by reason of its essential character is, and always must be, absolutely non-commercial—I mean Simon-pure professionalism.

Why not gather for this defense all those callings where skilled service unselfishly rendered to others is the qualifying requisite—not so small an array when you realize that standing up to be shot at for one's country at \$30 per month qualifies and that khaki is the hallmark of preparation and skill?

Those versed in figures told us, some years ago, that by virtue of the sleeplessness of interest, the money (78 per cent of all there is) at that time in the hands of 1 per cent of the people—would draw to itself the remaining 22 per cent within fifteen years, of which some six years have already passed. This money means bread, and when all of it has come under the control of 1 per cent of those to whom bread means life, is it unreasonable to look for one of those sanguine outbreaks of force that have, I believe, always resulted under those conditions since history began to be written? It is the thought of this which makes it seem worth while to try to oppose organized selfishness by unionizing for that purpose the one thing that has, I believe, never yet submitted to the fetters of organization.

I offer this as a post-Convention thought, and, really, I ask you, is it such an impossible idea that the combined intelligence which the professions represent might, acting together, parallel and in one and the same direction, result in a power worthy to be pitted against any human force—yes, even this one that constitutes the menace from which the world trembles today?

In order that we may have a worthy part in such an effort, or, for that matter, in any other post-war destiny that may include architects, I submit that we should no longer be satisfied with a membership that barely reaches 10 per cent of those who practise the calling we profess.

Recent correspondence with some thirty professional organizations supports my belief in the possibility of a brotherhood or league of professions by the show of keen interest in the subject and a readiness to join in its further consideration.

A careful survey of the situation leads me to feel certain that a bigger and a better Institute is immediately attainable.

Moreover, I am confident that architecture—the Art, I mean—can never come into its own until some way has been found to make it easier for the young man in the profession to earn an honest living. Surely he cannot hope to contribute much to art while 90 per cent of his time and energy is required to keep the wolf from the door.

A league of professions, an Institute really national in size and scope, and a vigorously and fully supported Post-War Committee on Architectural Practice—each offers possibilities. For the first I ask your post-Convention interest; for the second, the greater Institute, your help; and for the Post-War Committee I bespeak your most generous and unqualified support.

Convention Actions

Delegates' Expenses. The Board was instructed to apply some method for the equalizing of the delegates' expenses to all future conventions.

Dues. The initiation fee of new members was reduced to \$20. The dues of fellows and members were made equal, at \$20, the Convention declining to give the Board of Directors that authority to reduce the dues for which it had asked in its report.

Endowment Fund. The Board of Directors was instructed to prepare a plan for an Endowment Fund, the principal of which shall remain inviolate and the income of which shall be devoted to the maintenance of the Octagon property.

Farm Home Improvement. The Board of Directors was instructed to give all possible assistance to the movement for farm home improvement, a work which has been greatly stimulated by the Minnesota and Illinois Chapters.

Circular of Advice and Canon of Ethics. A suggested revision of the Circular of Advice and the Canon of Ethics, as prepared by the Illinois Chapter, was referred to the Board for its consideration.

State Societies. The Board was directed to encourage the formation of state societies and to invite their representatives to the annual Convention of the Institute, and to request the chapters of the Institute to cooperate with such state societies and with other local societies engaged in the promotion of the arts and industries.

Education. The Committee on Education was directed to give every possible assistance in the movement for cultural instruction in architecture in American colleges as inaugurated by the Association of American Colleges, a work which has already been developed by the Illinois Chapter, and the need of which has long been emphasized by the Institute.

The Convention resolved that the Committee on Edu-

cation of the Institute cooperate with the Association of Architectural Schools for the purpose of defining requisite preparation for architectural practice and of suggesting changes looking toward improvement in prevailing school methods.

Post-War Committee. The Convention unanimously voted that the Post-War Committee should continue its work, and by a two-thirds vote that funds for this purpose, not to exceed \$10,000, should be borrowed from the Reserve Fund.

Public Information. The Committee on Public Information was joined with the Committee on Institute Publications under the title of Committee on Institute Publications and Public Information.

The Journal. The Committee on Institute Publications was instructed to amplify, as far as possible, the publication of Chapter and Institute activities. The Board of Directors was instructed to consider the question of incorporating the Journal and of providing it with capital for the extension and further development of its field.

Small House Committee. The Board was directed to create a Small House Committee, which should investigate the possibilities of helping to provide better houses of the small type, such as generally do not come within the architect's range.

"Handbook on Architectural Practice." The Board of Directors was urged to publish, as soon as possible, the "Handbook on Architectural Practice" already authorized and which had been nearly completed by the late Frank Miles Day.

School Building Classifications. The Board of Directors was authorized to approve a scheme for classification and measurement of school buildings in accordance with the report submitted by the Committee on School Building Measurements and when in a form satisfactory

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to the Board, and of recommending its use to architects as a helpful compilation of data concerning details of construction costs.

Department of Public Works. The Board of Directors was instructed to cooperate in every way possible toward the establishment of a National Department of Public Works.

Registration Laws. The Committee on Education and the Committee on Registration Laws were instructed to consider jointly and report to the next Convention, a proper standard of competency for those admitted to practice under the name of architects, and a method of determining its fulfillment in individual cases. The Convention resolved that each Chapter be urged to take an active interest in regulation by state legislation of the practice of architecture.

The Board approved the Model Registration Law compiled by the Committee on Registration Laws, and it is now offered as a model for the guidance of all Chapters seeking the enactment of registration legislation.

The Convention resolved that, in states where an architect's registration law was being sought, engineers should also be urged to secure an independent registration law at the same time in order that all conflicts and misunderstandings between the two professions might be avoided before the enactment of legislation. The Convention opposed the principle of a joint registration law for the two professions.

Admission to Membership. The Convention amended the By-laws in respect to qualifications for admission to membership by removing the age limit for draughtsmen, which heretofore was "over thirty years of age." There has never been any age limitation for architects, and by this action of the Convention there is now no age limitation for draughtsmen.

Building Committee. The Convention merged the House Committee with the Building Committee because of the parallel nature of their duties.

Structural Service Committee. The Convention added the Structural Service Committee to the list of standing committees, as proposed by the Board.

National Victory Memorial Park and Forest. The Convention resolved: That the American Institute of Architects, in convention assembled, favors the establishment of a National Victory Memorial Park and Forest, as referred to in the report of the Committee on the Preservation of Historic Monuments and Scenic Beauties, and hereby requests the United States Department of the Interior to investigate the possibilities of creating such a park and forest within the great unproductive area lying between the District of Columbia, Annapolis, and Baltimore, to the furtherance of which project the American Institute of Architects has pledged its encouragement and such assistance as lies within its power and province to render.

Advertising. The Committee on Advertising, obedient to the Instructions of the Fifty-first Convention, prepared a revision of Articles 12 and 13 of the Circular of Advice, which was approved by the Board of Directors, and which is as follows:

Art. 12. "Publicity of the standards, aims, and progress of the profession, both in general and as exemplified by individual achievement is essential. Advertising of the

individual, meaning self-laudatory publicity procured by the person advertised, or with his consent, tends to defeat its own ends as to the individual, as well as to lower the dignity of the profession, and is to be deplored.

Art. 13. "The unobtrusive signature of buildings after completion is desirable.

"The placing of the architect's name on a building during construction serves a legitimate purpose for public information, but is to be deplored if done obtrusively for individual publicity.

"The use of initials designating membership in the Institute is desirable in all professional relationships, in order to promote a general understanding of the Institute and its standards through a knowledge of its members and their professional activities.

"Upon the members devolves the responsibility to associate the symbols of the Institute with acts representative of the highest standards of professional practice."

The Convention again referred both articles, together with the remainder of the Circular to the Board for further study.

Housing Conference. The Convention recommended to the Board of Directors that it take action looking toward a national conference on housing under the auspices of some department of the Federal Government.

Jurisdictional Disputes. The Convention adopted the resolution as offered by the Board, which approved the plan of the National Board of Jurisdictional Awards, as outlined in the report of the Committee on Jurisdictional Disputes. This action of the Convention, when the Board has signed the final agreement, will place every member of the Institute under a definite obligation to write his specifications in accordance with the decisions of the National Board of Jurisdictional Awards, which decisions will be binding upon all members of the various organizations composing that body. Failure to comply will render a member of the Institute liable to suspension. No doubt the Board of Directors will issue a complete circular on this subject, so that members may be duly advised of their rights and responsibilities. (See Convention Notes, p. 197.)

Gratuitous Expert Service. The Convention resolved: That securing gratuitous expert service from contractors or material men in connection with the preparation of plans and specifications is contrary to the spirit of the Circular of Advice, is contrary to the best interests of the owner, belittles the profession in the eyes of the building world, and cannot be too strongly condemned. Every individual architect should not only refrain from such practice, but take every opportunity to discourage the practice by others.

Co-operation with French Architects. The Convention adopted a resolution requesting the Board of Directors to welcome the Commission of French Architects on its arrival in this country and to cooperate in every way possible toward the solution of the gigantic problem with which the architectural profession of France is faced.

[NOTE.—The President of the Institute has been informally advised that in response to the Institute's inquiry, addressed to the architectural societies of France, as to how the architects of America could best assist their

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French confrères, the High Commission of France has arranged to send six representatives to this country for the purpose of taking up the problem through personal conferences.]

A New Institute Medal. The Convention authorized

a new medal to be bestowed annually in recognition of meritorious work in the fine arts, to embrace painting, sculpture, music, literature, as well as the crafts now recognized in making the award of the Institute Medal for Craftsmanship.

Convention Notes

The Convention was opened with an address by His Honor, William Gupton, Mayor of Nashville, who paid a glowing tribute to the work of the profession.

The Committee on Credentials reported that out of a full quota of delegates certified to the Convention and numbering 213, there were present 113, with 32 proxies.

The Nashville Society of Architects entertained the Convention at a barbecue at The Hermitage, preceded by an extensive motor drive through the charming pastoral countryside about the city. Fortunately, the day selected for this event proved to be perfection itself. Preceding the *al fresco* dinner, the party rambled through the extensive grounds of The Hermitage and explored the house itself. The gardens were especially beautiful and the hours spent at the one-time home of Andrew Jackson will be counted among the most pleasurable of Convention events. After the dinner, the party was entertained by a quartet of the Fisk University singers. The return to Nashville was by way of the famous powder plant at Old Hickory. Certainly the architects of Nashville will be gratefully remembered for their hospitality.

On the afternoon of the first day, the Convention adjourned at an early hour in order to permit the delegates to attend a reception which had been arranged by the Nashville Art Society at the Parthenon, where there had also been assembled an exhibition of paintings and other *objets d'art*. There were several brief and informal addresses by the President of the Institute and members of the Society, whose gracious welcome was much appreciated by the delegates to the Convention.

The officers elected for the ensuing year are as follows:

- President*, Thomas R. Kimball
- First Vice-President*, Charles A. Favrot
- Second Vice-President*, Clarence C. Zantzinger
- Secretary*, William Stanley Parker
- Treasurer*, D. Everett Waid
- Directors for three years:*
 - Edwin H. Hewitt, of Minneapolis
 - William B. Ittner, of St. Louis
 - Henry H. Kendall, of Boston

Members of the Institute elected to fellowship were as follows:

- Elliston P. Bissell, Philadelphia, presented to the Convention by C. C. Zantzinger.
- N. Max Dunning, Chicago, presented to the Convention by J. C. Llewellyn.
- William Emerson, New York City, presented to the Convention by Egerton Swartwout.
- Robert D. Farquhar, Los Angeles, presented to the Convention by W. B. Faville.
- Walter H. Kilham, Boston, presented to the Convention by H. H. Kendall.
- Joseph C. Llewellyn, Chicago, presented to the Convention by George B. Maher.

Henry McGoodwin, Philadelphia, presented to the Convention by Frederic Bigger.

W. S. Richardson, New York City, presented to the Convention by William A. Boring.

Honorary Corresponding Member:

M. Jean-Paul Alaux, Paris, France, was elected as an honorary corresponding member, his name being presented to the Convention by William Emerson.

Membership. The total membership of the Institute on April 15, 1919, was as follows:

Fellows	292
Members	1,089
Honorary Members	83
Honorary Corresponding Members	35

A total of 1,499

An Appreciation from the American Federation of Labor. The Convention received the following telegram, in connection with the adoption of the plan for settling Jurisdictional Disputes. Particulars of the plan, as adopted by the Convention, will be published later:

WASHINGTON, D. C., April 29

AMERICAN INSTITUTE OF ARCHITECTS IN CONVENTION,
Nashville, Tenn.

The Building Trades Department of the American Federation of Labor extends greetings and good wishes. This Department is grateful for the kind indulgence of Mr. Russell and others toward building trades. Hope your association will aid in consummating the plan which is tentatively adopted. Let us hope that it will be a powerful and practical influence toward which we strive. Again extending good wishes.

JOHN DONLIN, *President Building Trades Department*
WM. J. SPENCER, *Secretary Building Trades Department*

Architects and Government Housing. The Convention authorized the following telegram to be sent:

LEROY K. SHERMAN, *President*,
United States Housing Corporation,
613 G Street, N. W., Washington, D. C.

The American Institute of Architects in Convention assembled has been informed that the U. S. Housing Corporation in its forthcoming report proposes to omit from published designs the names of their authors.

The members of the engineering landscape and the architectural professions of this country served the Government unselfishly and patriotically during the war. The Institute respectfully but firmly maintains that the slight recognition which would be accorded them by the publication of authors' names is their just due and is a matter of interest to the public.

WILLIAM STANLEY PARKER, *Secretary*.

In reply to the above telegram, the following was received:

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"The matter of names on designs of Housing Corporation report had received final action prior to your message of May first.
L. K. SHERMAN."

The architectural profession will appreciate the action of the President of the Housing Corporation in deciding to publish the names of the authors of the designs in connection with the illustrated report now in preparation, which action had been taken prior to the action of the Convention.

Items from the Report of the Board of Directors.
Finances.—The financial condition of the Institute during the war was better than reasonably could have been anticipated, and there is every reason for optimism as to the future.

All obligations have been met, with a good bank balance always in hand; our property is free and clear; there is no floating indebtedness, except in connection with the Journal; and our Reserve Fund has grown, never less than \$3,500 per year since 1914, until the Fund stands now at a total of over \$31,000.

Dues actually received were as follows:

1916	. . . . .	\$25,090 00
1917	. . . . .	25,475 00
1918	. . . . .	22,867 00

These show a falling off of \$2,600 in 1918, as compared with 1916, but things are looking brighter, already, in 1919. Whereas dues collected during the first three months of 1918 were \$13,525, during the first three months of 1919 they were \$16,560, an increase of \$3,000 over last year.

Our loss of revenue resulting from remitting dues of members in war service was as follows:

1917	. . . . .	\$1,645 00
1918	. . . . .	695 00

The Octagon House.—Fortunately, the threatened use of the Octagon property as a site for a temporary Government office building was averted through the Government finding other quarters available. The Octagon itself, however, did a certain war service through the free use of the drawing-room for a considerable period by the Navy and then by the War Department. The Board recognizes with satisfaction the expenditures of the past year on upkeep and feels the importance of constant attention to the fabric of The Octagon, so that it may be kept in an honorable state of repair. The Board hopes that before the next Convention the times may be favorable to definite progress toward the establishment of a McKim Memorial, as planned at the Fifty-first Convention in Minneapolis. To that end it advises the continuation of the committee and the revival of its activities at the first opportunity.

Structural Service.—The Board recognizes the great scope that exists for the activities of the Structural Service Committee, but believes it unwise for the Board in this Convention to attempt to determine a definite course of action until after the Committee itself has come to a fixed opinion in the matter. It believes the Committee should inaugurate the work prescribed for it by the Fifty-first Convention, and advises that it be left with these instructions unchanged until such time as it is ready to advise more specific instructions, looking to definite activities along some of its possible lines of effort, which must ob-

viously be limited for the present by the expenditures that our general finances will permit for this purpose.

Jurisdictional Disputes.—In November the Board resolved that the President appoint a committee to cooperate with the organizations representing the labor interests with reference to subjects of common interest, and to report back to the Executive Committee for instructions. After preliminary conference with the Executive Council of the Building Trades Department of the A. F. of L., the Committee, at the request of the Council and with the approval of the President of the Institute, called a conference on the subject, which was held in Cleveland, March 30, at which were present representatives of the Department of Labor, general contractors, the Building Trades Department, and your Committee representing its Institute.

At this conference, John D. Lennon, representing the Department of Labor, presented a plan for consideration. This was amended and issued to the national organization intended for criticism and further consideration at a meeting in Indianapolis, April 4, at which time the Engineering Council also was represented. A plan for a National Board of Jurisdictional Awards in the Building Industry was adopted at this meeting, for submission to the various organizations interested, and has been submitted by your Committee to the Board of Directors, and the Board refers it to the Convention for action. It is of no little interest and significance that the labor and contracting interests looked to the Institute for guiding action in the matter, and the Board believes that definite action should be taken by this Convention, approving the plan as outlined. [This action was taken. See Convention Actions, p. 195.]

Government Relations.—At the last Convention there was just beginning to dawn the day in which the architects would be given opportunity to serve the Government in their professional capacity. The great housing programme was just getting under way. Many fundamental policies were then as yet undetermined. Now, a short twelve-month later, the big accomplishments that you all are familiar with have passed into history, and, except for the cause, we could well regret that so many vast conceptions were prevented from being completed and so adding greatly to our sum of knowledge.

The Institute gave of its best to the cause, and the profession grasped eagerly at the opportunities for service, however humble or harassing. In the two great Government departments that controlled this work, 129 architects, draughtsmen, and town planners were employed. In addition to these staff organizations there were some hundred architects engaged by them on the different projects, and under them a small army of assistants labored. Herein the profession rendered its substantial service.

In addition, the Executive Secretary was able on several occasions to bring the resources of the profession quickly to the assistance of the Government. Major Tracy's recently published letter is witness to the aid rendered in recruiting for the Camouflage Section of the American Army, and many individual members of the Institute have been materially assisted by the Executive Secretary in their efforts to obtain information or secure appointments. The Board is glad to take this opportunity

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of recording its appreciation of the able and untiring efforts of Mr. Kemper in the service of the Institute and its members throughout the period of the war, which has put so many unaccustomed burdens on the office at the Octagon House.

Education.—In commenting upon the report of the Committee on Education, published in the April Journal, the Board said: The Board entirely agrees that the development of the practical, as opposed to the purely esthetic side of architecture, is too often neglected by the practitioner. The Board, however, does not believe that the teachers of architecture have taught that the practice of architecture is a cultural activity, completely removed from the affairs which concern the mass of people, nor that design was taught without any contact, whatsoever, with the world of reality.

It feels, however, that there is need to draw a careful line between those facts which can best be learned in the field and those which must be taught in the school, where the student may reasonably learn the vocabulary of the profession and gain a background against which to judge his modern world and the problems it sets him to solve. That he must know his modern world in order to solve its problems is axiomatic. Do the schools of architecture deny this or fail to endeavor, each in its own degree, to lead the students' minds to an appreciation of this axiom. The Board notices among the different schools differing accents on the elements of training, and in all the schools an adjustment from year to year in the curriculum to meet the newer tendencies that have been so rapidly developing in the practice of architecture during the past quarter century. The Board cannot but feel that in a continuance of this evolutionary process lies the answer to our problems rather than in a revolution of all that now exists in general and vocational education. It hopes that there will be the fullest possible discussion of this vital question.

Chapters. The Board has much pleasure in reporting the establishment of a new Chapter in Nebraska, for which the charter was recently issued. Already the Chapter has made its influence felt in municipal architectural affairs, and the Institute is distinctly strengthened in its power for good through the incorporation of this new Chapter.

The Board is also particularly happy in reporting its authorization of a new Chapter, to be known as the Tennessee Chapter, having the state of Tennessee as its territory.

The Secretary is still engaged with the approval of revised Chapter Constitution and By-laws. In view of the fact that the standard form for Chapter By-laws was distributed in the fall of 1917, it seems proper at this time to record the facts. Twenty-two have been finally approved. Eight have been submitted, but not yet fully approved on account of needed corrections. Nine have not yet submitted drafts, in spite of repeated requests, although one or two of these promise action immediately after this

Convention. The Board urges these Chapters to act in this matter at once.

Allied Arts. The Committee on Allied Arts has nominated Samuel Yellin, of Philadelphia, as recipient of the Institute Medal for notable work in the wrought iron craft of the allied arts, and the Board approves the nomination and presents it to the Convention for ratification. The award will be witness to his exceptional craftsmanship, his ability as a designer, his success as an instructor, and his keen interest in the general field of architecture.

The Committee suggests the desirability of bestowing, in subsequent years, a similar medal for distinguished service in the fine arts, so as to embrace painting, sculpture, music, and literature, as well as the craft now recognized by the present medal. The Board refers this to the Convention for action, with its approval. The Board advises the continuation of its Committee.

Tennessee Chapter. At the meeting of the Board of Directors, just previous to the Convention, the Tennessee Chapter was admitted to the Institute.

Historic Monuments. The Convention approved the suggestion of the Board that all Chapters shall take steps without delay, looking to the development of permanent records of local historic monuments. The Secretary will no doubt, in compliance with this action, request all Chapters to appoint active committees for the purpose.

The Institute Medal for Craftsmanship. The Convention awarded the Institute Medal for Craftsmanship to Mr. Samuel Yellin, of Philadelphia, in recognition of his notable work in wrought iron, and in witness to his exceptional craftsmanship, his ability as a designer, his success as an instructor, and his keen interest in the general field of architecture.

Meetings of the Board of Directors. On the two days preceding the Convention the Board of Directors met to consider their report and the reports of committees. Immediately after the Convention, the Board held another meeting to consider the appointment of committees for 1919-20. It is hoped to announce the personnel of these committees in the June issue of the Journal.

New Members Elected. At the meeting of the Board of Directors at Nashville, as recorded above, the following were elected to membership in the Institute: Arthur C. Yost, Cleveland Chapter; John Archibald Armstrong, Arthur C. Buckett, Frederick Johnck, Louis E. Languille, Merritt J. Morehouse, William Jones Smith, Illinois Chapter; William Gordon, Kansas City Chapter; Albert Gardner Wood, Jr., Michigan Chapter; Clarence E. Dobbin, Francis Y. Joannes, Stephen Francis Voorhees, New York Chapter; R. Brognard Okie, Philadelphia Chapter; W. George Eckles, Pittsburgh Chapter; William Douden, South Pennsylvania Chapter; William Callis West, Virginia Chapter; Max W. Schober, Wisconsin Chapter; Carl Siebrand, J. R. Nevins, Ernest R. Williams, Joseph Wade Wilson, F. Stanley Piper, Washington State Chapter.

The Professional Idea*

By JOHN BELL KEEBLE

IT is a pretty difficult thing to define what it is that justifies any group of men in claiming to be the exponents of a profession. It is not now a fixed definition, nor has it been, and I am not going to undertake to define it. I belong to a profession that is generally recognized as being one of the professions, and you are members of a profession in the real and the best sense. Indeed, I note that your profession embraces a certain quality which gives it just a little bit more tone in a certain way, because you are the one profession, so far as I know, or as I understand the word "profession," that combines the real qualities of a profession with the real qualities of art; that makes it just a trifle more refined, and puts a double burden upon you in living up to it.

The lawyer is a professional man, but there is no art in my profession; the surgeon is a professional man, and there is skill in his profession, but no art. And so I might recount the characteristics of other professions, but the architect is a professional man with all the distinctive traits that determine whether or not a man belongs to a profession with the glow of the beautiful of art.

Now, there are certain definite things that we know about the professional life by which we judge it. And in discussing that, we must remember that professional men ought, not only in their own lives to demonstrate these fundamental principles that are determinative of all classification of professions, but to stimulate in others the development of those qualities. And one of the first things is this—that it is generally regarded as necessary for a professional man to have more or less general culture. A man can build a railroad without culture, in the sense of a financier; he can finance a railroad, or he can operate a railroad without culture; a man can establish a great bank or a great financial system without culture. But it is a very difficult thing for a man to be a real architect, or a real lawyer, or a real physician, or a minister of religion, without general culture, either acquired in his youth or acquired in his maturity, alone, and under greater obstacles.

*Part of an address delivered at the Fifty-second Annual Convention.

I am not one of those men who believe that culture is only obtained in a college. In fact, the modern college does not turn out as many cultured men as I would like to see it turn out. It has gone most too far in the showy and in that physical indulgence of youth in athletics and pleasures which attract the attention of the commonplace in the world. This perhaps stimulates gifts, but does not, in my judgment, sufficiently stimulate culture. We take pride in our callings, in that we recognize that you and I and those who come after us in our professions can never reach the real standard that we sought without giving a great deal of attention to the acquisition of general culture.

We know, further, that one of the distinctive qualifications of a professional man is that a man must, as far as he may, master the fundamental principles that govern and control the work of his profession, in order to achieve real success. Any achievement in any profession, with a disregard to the sound and fundamental principles that lie at the bottom of its real usefulness, is a false achievement and not creditable to the profession that adopts it. Consequently, you, and other men in their professions, realize that one of the distinctive features of the professional idea is that a man must spend all these years in preparation, and continue in his preparation as he goes on with his work, to master the fundamental principles of what might be called the science of his calling. Your calling and my calling do not go by haphazard; they do not rest upon the inspiration of genius alone, but upon talent and genius manifesting themselves through the mastery of the inheritance of the ages, of men who have studied and thought along those lines.

No man can be a great physician or a great surgeon who does not understand, so far as is known, the scientific principles that underlie treatments, diseases, and the definite method of dealing and handling surgical cases. That is one of the dignified points about your calling and mine. We are not independent; we cannot strike out and do a thing alone. Our professions are the result of science in your calling and science in my calling, the accumulation of the contri-

butions made by thousands and thousands of men, both mighty in position and humble in position, who faithfully and honestly have built those callings up.

The next point in reference to a profession is this: Many men have had culture; many men have had knowledge of a science or of a profession and mastered it, but when they do not use it for the purpose for which the profession was established and developed, they are not entitled to be called professional men. One of the great distinctive qualities of every profession is this: That the professional man ought to feel that whatever he knows and whatever he has acquired in his profession is not merely for the gratification of his intellectual appetite, not merely for the satisfaction of the possession of knowledge, but that he holds this knowledge and skill in trust for all.

The professional man is the greatest and most important trustee for the preservation and development of society that this world knows. Each of us, you and I, enjoys a capacity that, properly applied, can ameliorate the conditions of society and the troubles and necessities of the individual members of it. And that is one of the distinctive features of a professional man. He must apply his knowledge in the service of others. The most striking, and yet, from a certain standpoint, the most pathetic, as far as this world's measures and standards are concerned, and yet the noblest of all the attributes of the profession is that the professional man, the true professional man, never uses his talents primarily for the accomplishment of any scheme or plan of his own. He is the man who stands ready to serve other men in the realization of their conceptions of labor or work, or to aid other men in the establishment of their enterprises from which they reap, quite often, large profits.

I say that is a pathetic side of the professional life. My observation has been that the typical man of my profession pays less attention to his own business than to that of anybody else. And I am also satisfied that the typical men of your profession spend much less time in looking after their own personal affairs and interests than they do in looking after the affairs of their clients. None of us are altogether unselfish, but that is one element of selfishness that you do not find in the typical and true type of a professional man. He is not avaricious to an unreasonable

degree; he is not ambitious of accumulating great wealth. The true surgeon would rather invent an operation that would restore men and women to health and strength than to accumulate the fortunes of a Rockefeller, a Carnegie, or a Rothschild. I never pass a certain spot in New York City, on 42d Street, that I do not pause for a minute before a monument that stands in that square or little park adjacent to the Public Library. In that great city, the product of so many kinds of American genius, but which stands in the common mind primarily as the center of finance, of trade, and of business; where great skyscrapers are erected as greater or less monuments to companies or to private individuals; and where the influence of Wall Street throbs—and I am not criticising it; it is necessary to have the great financial heart somewhere, and I know of no better place to have it than in Wall Street. But as I stand before that great monument to James Marion Sims, whose one discovery in surgery, one operation which he invented, has given life and health, I might say, without exaggeration, to millions of women throughout the length and breadth of the world—as I stop there, I say: There is the difference between the professional idea and the business or commercial idea.

The greatest consolation that comes to a professional man, if he sits down and thinks about his life, is this (I do not mean to take it to myself, or for you to take it to yourselves individually, but I mean to all of us as a group): How far would the world be along today if we hadn't had generations of the patient and devoted attention to professional duties, given by all the professional men in the world? Suppose the man who has a genius for the accumulation of money did not have the counsel and aid of wise men in the formation and organization of his enterprises, the creation of his companies and his corporations, the assistance of such men in the enactment of laws that make it possible for this great commercial engine to be built—and then the defense against the various attacks that shining success always invites—could he ever have achieved it?

There is no great financial or business magnate in the world that could have achieved the same success for himself, or for the community in which he lives, without the aid of professional men like you, and other professions, which have

THE PROFESSIONAL IDEA

made it possible for him to realize in tangible terms what he was striving to do. He lips to you and to me and men of our kind what he hopes to do, and, through professional aid, he works it out. And this is true: If you were to take the professional men out of the world today (I make this statement without fear of contradiction) you would put almost a positive brake upon any further development, either in business, finance, or any of the various phases of life that make it worth living and worth while to people. I think that is enough to make a professional man feel the importance of his calling.

Now, aside from that pleasure which a professional man has, he must rely upon that indescribable pleasure arising from mental exhilaration when he knows that he has solved a problem that is worth while. No joy comes to any business man equal to that which comes to a professional man when he realizes that he has solved a great problem in his business, perhaps for the benefit of someone else. Of course, as the man swings out further and uses his talents in broader fields and broader schemes, that joy is greater, but to think and work in his line, a professional man gets a pleasure in life which the men of the other callings in life can never understand.

But the professional man sometimes has his innings in the world, and we are entitled to enjoy it, whether we are up in front or not. When the war storm broke in 1914, the most helpless people in the world were the so-called business men—men who had amassed great fortunes, who had controlled great enterprises throughout the length and breadth of the world. But for the professional man, you and me, I cannot undertake to describe what would have happened to civilization.

When France, bled white and staggering against the foe, was almost on the point of cracking, who went to her rescue?—a professional man, a journalist, Clemenceau, the Tiger, seventy-six years old, who arose from his sanctum like a great strong beast of courage and defense, and wrought the transformation that held France until the day of deliverance.

And when our mother country, England, tried all remedies and was getting nowhere, it was the Welsh lawyer, Lloyd-George, who took in his own hands the affairs of the empire and aroused a great people to a great strategical effort. And when the armies of the world were lined against

each other, through middle Europe and western Europe, between Germany and France, was it any great manufacturer, any great merchant, any great operator of mines that arose equal to that occasion? It was a schoolmaster in a war college, sixty-four years old before he had ever commanded an army; who never had commanded an army in his life until the first battle of the Marne; and who, by the time he was sixty-eight years old, had proved himself to be the greatest master of minds in battle that history records. He is a type of the professional man.

And now, after it is all over, as far as the fighting goes, and the restless after-war period has set in, with all its possibilities of terror and disaster, and all of its possibility of glorious progress and achievement, when the whole fate of the world seems trembling in the balance, what man occupies the attention of the world? What man? What type of man grips the imagination of the world's society, and seems to be, at least if we read correctly, fashioning the destinies of generations yet to come? The school teacher, trained for the legal profession at first, but the school teacher, the professor—the President of the United States.

Now, there is a reason for the fact that the professional man influences civilization and the history of the world as he does, and as he has done for generations. It is the type of mind and character that professional life has made. Today it is subject to attack in my profession and in yours, and I want to make this parting appeal to you. You have every reason to believe that if your profession or mine departs from its traditions, the tradition of unselfish devotion to our callings and the tradition of high and noble purpose of service, you and I cannot expect our professions to contribute to the welfare of society in the future as they have done in the past, because, it goes without saying, the men who have achieved so much for the good of humanity through professional training and professional standards, are the products of that training and the result of those standards, and if you strike them down, or suffer them to be impaired, while you and I may gain some temporary reward, we are placing upon the altar the spirit of professionalism that has been the soul of the progress of society for hundreds and hundreds of years.

The Competition for the Federal Buildings, 1792-1793

III. THE COMPETITORS AND THEIR DESIGNS

By FISKE KIMBALL and WELLS BENNETT

AMONG the score of men who submitted designs in the competition for the Federal buildings, the greater number belonged to the class by which our Colonial buildings had been created, the builder-architects. Such craftsmen, who themselves took part in the execution of their designs, are the very men about whom we have hitherto known the least. We have been prone to regard them as nameless tools of the blind forces of tradition, working coöperatively by instinct, lacking in individual personality. As in the case of the mediæval craftsmen imagined by Ruskin and Morris, however, we find on closer examination that such a view reflects less the character of the men themselves than our own unfamiliarity with them.

In the cases of a number of the competitors: Dobie, Williamson, Faw, Harbaugh, Small, and McIntire, we know definitely that they contracted for buildings, or worked on the scaffold or in the shop, as well as over the draughting-board. Lanphier came of a family of carpenters. Hart and Diamond, of whom we know practically nothing otherwise, as well as the anonymous author of the plan numbered "33," also show in their designs the characteristics of the work of the Colonial builders. In the case of Wintersmith, a former engineer officer of Burgoyne's army, the evidence we have suggests that he was engaged in building after the Revolution. The majority of these were Maryland men, the local builders, making their best effort to secure the important work which the choice of a site for the Capital had thrown into their locality. They form a coherent group which may be considered first. Crude as their drawings are, we should not forget that the executed work of these men—the lineal successors of the builders of the splendid houses of Annapolis—would have infallibly shown merit in the handling of materials and details, and that its inadequacy was the inadequacy, for monumental purposes, of the Colonial style as a whole.

The Maryland Builders

JACOB SMALL

Jacob Small, of Baltimore, was the founder of a line of builders who, in successive generations, followed the progress of American architecture from Colonial naïveté to classical dignity.

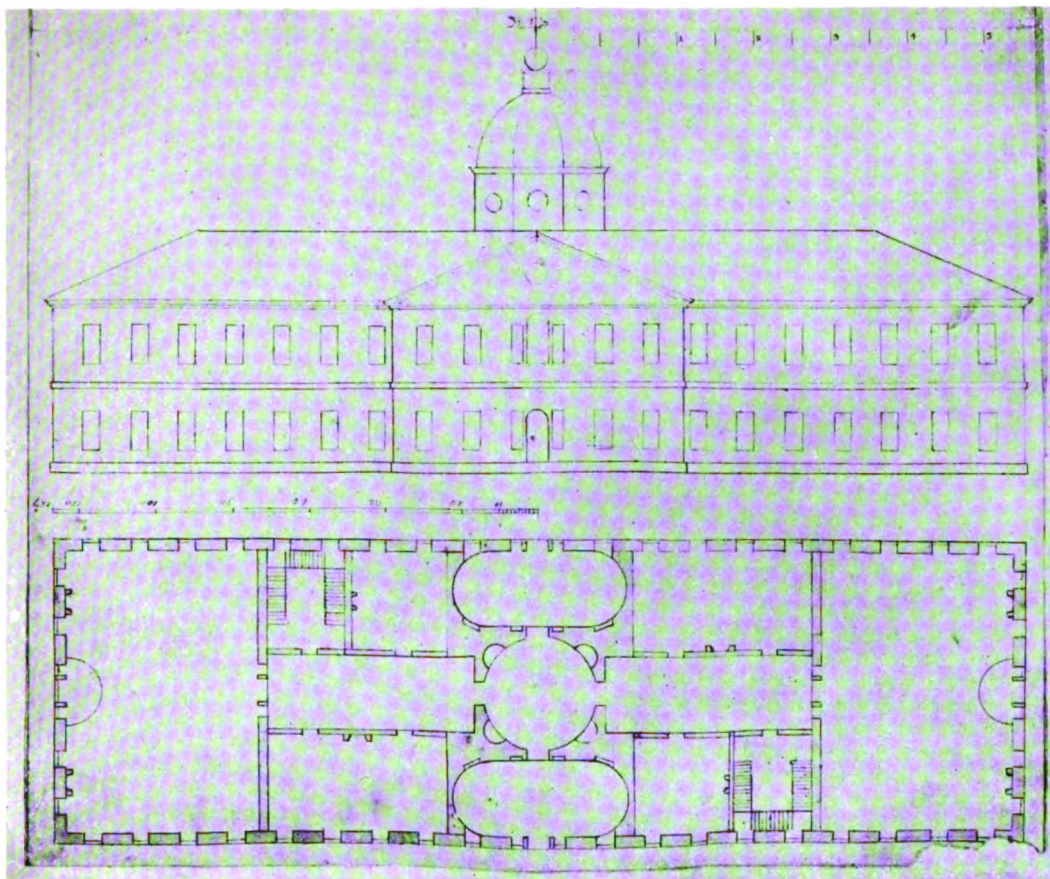
Of the man himself we catch several glimpses in early records. Thus, at the time of the census of 1790, his household consisted, beside himself, of "one free white male under sixteen," and "two free white females"—a son and, presumably, a wife and a daughter. As he was an artisan of modest pretensions, it is not surprising that he had no slaves. On December 11, 1794, he was married a second time, to Nancy Fleetwood,¹ and many entries regarding their children occur in the register of St. Paul's parish in Baltimore.

A single building, beside his competitive designs, gives us some idea of his architectural work. The Evangelical Reformed Church, "erected in Conway Street by the German Evangelical Reformed Congregation" and opened in 1785, was of his design, according to the legend on the margin of the Poppleton plat of Baltimore in 1822. The view there given shows the conventional Colonial scheme of a church with galleries and a western tower. The tower, which has pilaster strips at the angles, has a large octagonal belfry with a domical roof, crowned by a smaller lantern of similar form. No very rich detail seems to have been possible within the cost of \$10,000, and the cusped arches of the belfry stage reveal that Small's feeling for classic detail was not of the purest.

Almost all the forms used in this church recur over and over again in his elevations for the Capitol and the President's House. The only substantial differences between them are in the number of the tall pilasters and the size of the cupola. In most of the designs the pilasters occur only at the angles of the building or of the central pavilion, but in the two most elaborate

¹"Record of Maryland Marriages," 1777-1804.

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793



SCHEME A FOR THE CAPITOL.—Jacob Small
(From the original drawing in the possession of the Maryland Historical Society)

studies for the President's House they are carried all around the building at equal intervals. As the interval embraces two bays of windows, however, the scheme does not differ essentially from that of many late Colonial houses, such as the Craigie-Longfellow house. The dome proposed for the Capitol has a close resemblance to that of the Maryland State House at Annapolis, a novel feature in what was then the finest and most recent building in the state. The whole Capitol façade, indeed,—especially in the simplest study,—has a close similarity to the building at Annapolis. In the plan there is some attempt to create a monumental rotunda and to vary the shape of the rooms, but it is very evident that Small's vocabulary of architectural forms was even more restricted than that of the best pre-Revolutionary designers in the more favored colonies.

An ill-spelled letter from him to John M.

Gantt, secretary of the Commissioners, March 9, 1793, records a premature rumor that Harbaugh's plan for the Federal Hall had been adopted, and asks the return of his own plans.¹

Small's son, Jacob, came under the influence of the French architect, Maximilian Godefroi, while building the court-house in St. Paul's Lane (1814ff.), and of Latrobe in building the Baltimore Exchange (1815ff.). In the façade of the old Masonic Hall in Baltimore, erected 1813-1822, of which Small himself was the architect, he employed a large arch motive with a screen of Greek Doric columns, very effective in its composition. He served as lieutenant-colonel and brigade quartermaster of volunteers in the War of 1812,² as librarian of the Mechanical Company in 1820,³ and as Mayor of Baltimore in 1826-1830. His portrait hangs in the

¹"Letters Received by the Commissioners," No. 222, vol. 2.

²L. H. Diehlman: "Maryland Roster of the War of 1812," p. 439.

³G. W. McCreery: "The Ancient and Honorable Mechanical Company of Baltimore," (1901), p. 42.



SCHEME B FOR THE CAPITOL.—Jacob Small
(From the original drawing in the possession of the Maryland Historical Society)

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793

Mayor's office. A grandson, William F. Small, worked on the Exchange Hotel in Baltimore,¹ designed the English Lutheran Church, 1824,² and was engineer of the Baltimore and Susquehanna Railroad Company in 1829,³ before his early death.

ABRAM FAW

Abram Faw had been a contractor for supplies to the Maryland troops during the Revolution, as we learn through several items in the State Council Books and in the Correspondence of the Council.⁴ Aside from the purchase of clothing there is mention of the building of a barrack in 1778-1779, for which Faw expended £3,142 11s. 1d. on account of the state.

His letters to the Commissioners of the Federal city are dated from "Middle Brook," or Middleburg, a little hamlet then forming part of Frederick County, Maryland. The census records of Frederick County in 1790 show that he was somewhat more prosperous than other Maryland competitors. His household included two slaves—besides himself, two free white males over sixteen, and one free white female.

His earliest connection with the city appears in a letter of January 24, 1792, written by him to Thomas Johnson, the Maryland member of the Commissioners, reporting some imprudent remarks of Roberdeau, the assistant of L'Enfant, who was then in the final stage of his struggle with the Board.⁵

Perhaps anticipating the dismissal of L'Enfant, who was then entrusted with the design of the public buildings as well as the city plan, he wrote Johnson again on January 28, offering his own services.⁶

SIR

After I had the Honor of a Conversation with you on the Subject of the Publick Buildings and other works Design'd to be Carried on in the City of Washington, I began to feel myself Interested in its Success and Disposed to make you an Offer of my Services, so far as my Abilities and Knowledge of the Business might extend, and on such Terms as I think much of the Publick's money might be sav'd, which I am Confident is a primary motive with you, and at the same Time relieve you from a Con-

¹William Dunlap: "History of the Arts of Design in America" (1834).

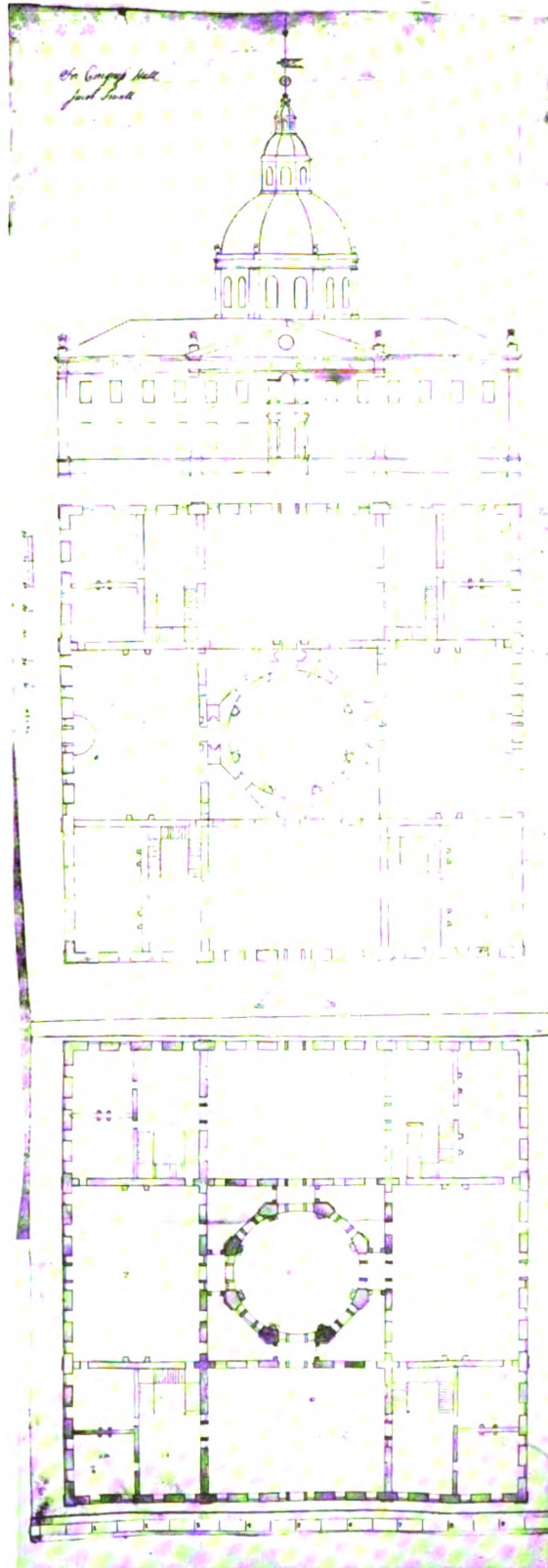
²Lucas: "The Picture of Baltimore" (1832), p. 140.

³J. T. Scharf: "Chronicles of Baltimore," (1874), p. 432.

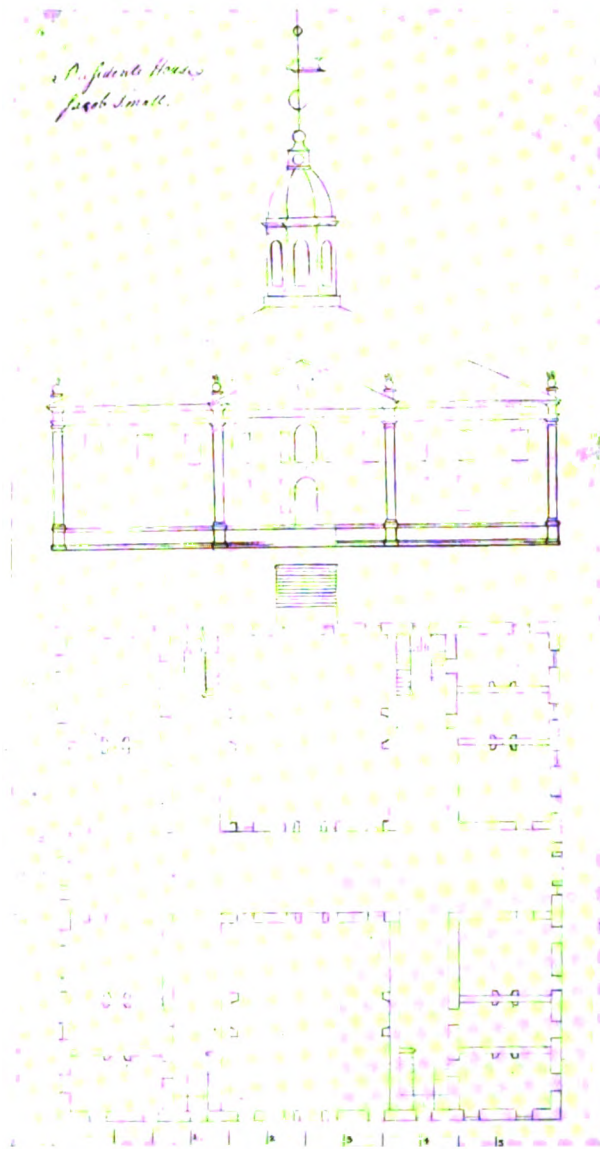
⁴"Maryland Archives," vol. 16 (1897), p. 520; vol. 20 (1901), pp. 131, 132, 148, 271, 318, 482, 544, 555, 556.

⁵"Letters Received by the Commissioners," No. 76, vol. 1.

⁶*Ib.*, No. 78.



SCHEME C FOR THE CAPITOL.—Jacob Small
(From the original drawing in the possession of the
Maryland Historical Society)



SCHEME D FOR THE PRESIDENT'S HOUSE.—Jacob Small
(From the original drawing in the possession of the
Maryland Historical Society)

considerable Share of the Vexation and Burthen Always Attendant on Extensive Undertakings

For Commission of Five p^t C^t (*the Usual Charge is Ten*) on the whole Expenditures, I will render the following Services viz^t.

By and with the Advice and Direction of the Commissioners from Time to Time, to Contract for, Inspect, Measure, Ascertain, Receive, and Secure all Materials, and see that such as are subject to waste or Damage be put under Covers—

To Employ, settle with, and Pay off the Hands engag'd by Time, Piece work, Measurement, or Otherwise with a Power to dismiss such, as are Disorderly or do not do their Duty—

To Superintend and Examine the work as it is Carried

on, and see that it be done in a Faithful and proper Manner, and Accordingly to the Contracts respectively entered into—

To see that All Materials are Delivered in a proper Time, of a Sufficient Quality, and in good order, that such workmen as may be employed by piece work, or on Measurement may not complain of Disappointment in Materials, or Detention on the part of the Comm^{rs}., And that those who necessarily may be employed by Time, that their work may be so Arranged, that there may be as little Loss of their Time as possible.

Under an Impression that such extensive works and Buildings cannot be prosecuted to Advantage in any Considerable Degree, unless the Board of Commissioners were Always sitting, or some person of Intelligence and Experience on the spot to Represent them in their Absence, as it is Evident a small Circumstance often Derange Matters in Buildings so as to Occasion Delays, Disappointments, and Always Terminates in Cost to the Employers—

If you are of Opinion Sir that the [fore]going Propositions Merit any Attention on [prin]ciples of Public Utility, you'll please Submitt them to the Consideration of the Honble Board of Commissioners, and if they think proper to receive any farther Explanation on the Business, I will do myself the Honor to wait on them for that purpose—

And am Sir, most Respectfully
Yr Obed^t
Hble Serv^t

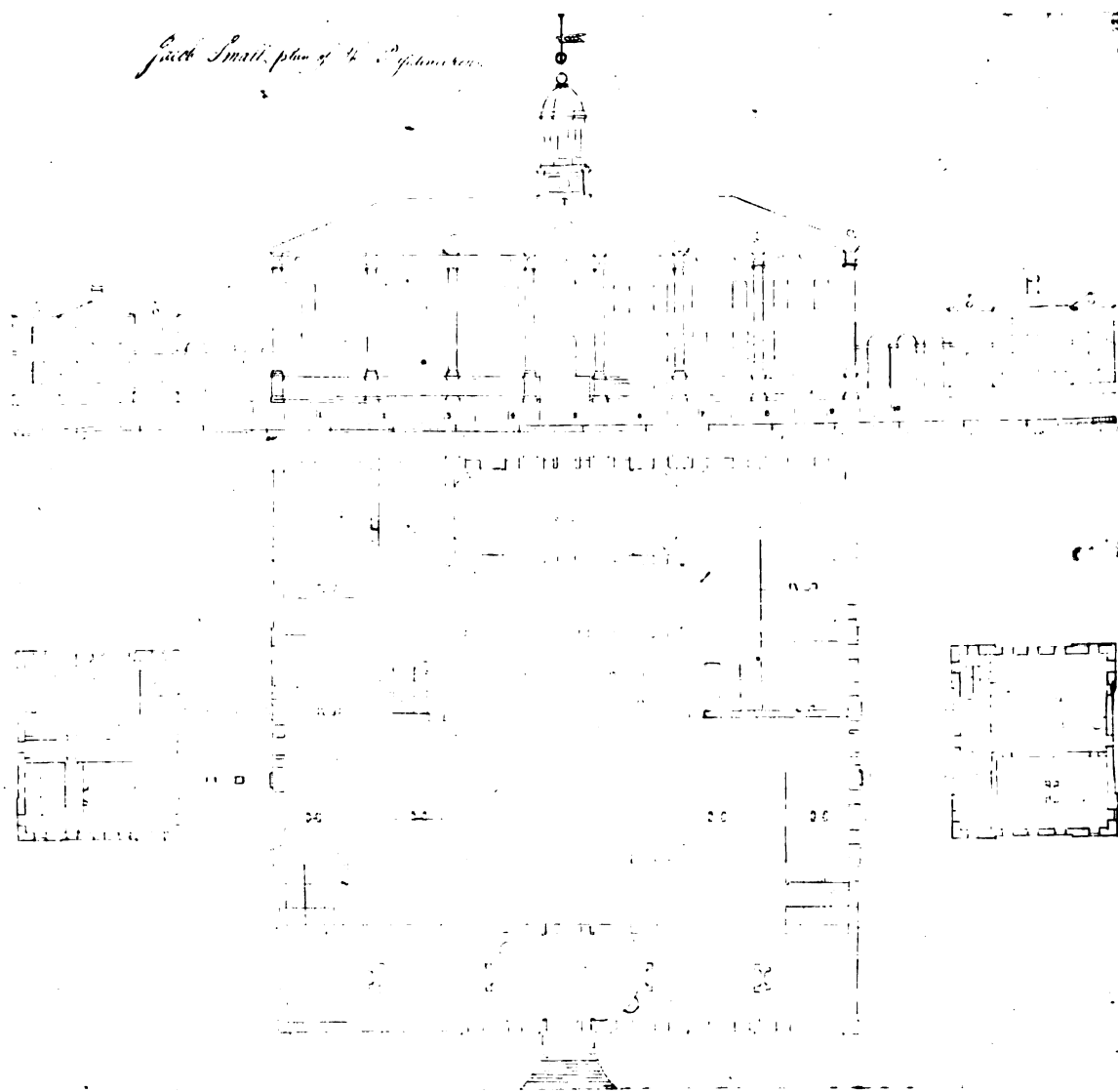
A FAW

Faw's design is, no doubt, the feeblest of all those submitted. Only a ground-plan is preserved, and this lack of the required elevations and sections may have been what was implied by the Commissioners when they wrote Jefferson on June 6th of having received "an imperfect Essay of Mr. Faw." The plan itself, however, was not less imperfect, both in its irrelated features and its lack of monumental qualities. It is a mere barrack, subdivided in accordance with the practical requirements, but without even regard for symmetry in the side elevations. The only attempt at magnificence is the elliptical colonnade introduced at the intersection of the corridors, but this is given no architectural relationship with the adjoining walls. The design was scarcely such as to inspire any confidence in Faw, and it is not surprising that he seems to have received no employment from the Commissioners and henceforth drops from sight.

LEONARD HARBAUGH

That Leonard Harbaugh submitted a design for the Capitol we know from a reference to it by the Commissioners in their letter to Blodget

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793



SCHEME E FOR THE PRESIDENT'S HOUSE.—Jacob Small
(From the original drawing in the possession of the Maryland Historical Society)

of August 29, 1792. In speaking of a conference, which might be called the second judgment, over a revised design by Hallet, with designs by Turner and Blodget, they say: "Something in each, as well as in an Essay of Mr. Harbaugh gave information and claimed approving notice." A rumor even reached Small the following March, as we have seen, that Harbaugh's plan had been adopted.

What the provisions of his design were we can only surmise, as his drawings themselves have disappeared. Regarding Harbaugh himself and his other work, however, we are better informed than in the case of most of the competitors, and this knowledge will permit us to

form some idea of the probable quality of his scheme for the Capitol.

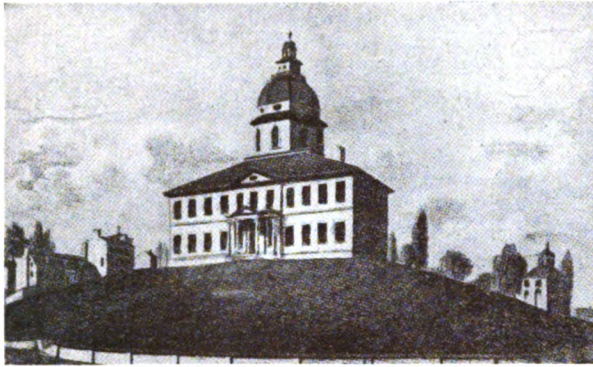
The name Herbaugh or Harbaugh is a familiar one among the Pennsylvania Germans, having later been borne by the author of a well-known collection of poems, "Die Harfe." We first hear of Leonard Harbaugh in Baltimore, where in 1784 he underpinned the old courthouse and supported it on a masonry arch so that Calvert Street could be carried through beneath it.¹ In 1788 he was one of the Commissioners of Baltimore town.²

His connection with the works in the Federal

¹J. T. Scharf: "Chronicles of Baltimore," pp. 62-63.

²*Ib.*, p. 254.

district began very early, as he designed and built the first important structure undertaken by the Commissioners, begun before designs for either the Capitol or the President's House were adopted. The circumstances are described



THE STATE HOUSE AT ANNAPOLIS
(From an old print in the Maryland State Library)

in a letter from the Commissioners to Jefferson, March 30, 1792:¹

SIR

Having felt much anxiety at our last meeting to see business of some sort commenced here, we determined on the immediate erection of a Bridge over Rock Creek, and advertized for Models to be exhibited to us by the 26th. Mr. Herbaugh from Baltimore, an artist with whose ingenuity you must be acquainted from his patents, exhibited to us the inclosed one, which has our approbation, as well as that of all here. . . .

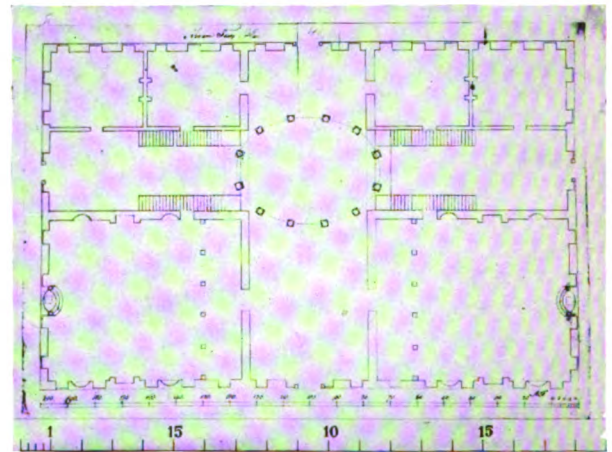
Mr. Herbaugh gives us reason to think he will undertake the causeway likewise. He returns to Baltimore tomorrow to prepare for the undertaking he has engaged in conditionally, if it receives the President's assent, of which we promised him to request you to drop him immediate notice at Baltimore that there may be no delay. . . .

From our acquaintance with Mr. Herbaugh, we are impressed with the most favorable opinion of him, and besides flattering ourselves that he will be found generally useful, think he will be the most proper person we can engage, when it shall be necessary to undertake the Canal and the contraction of Goose Creek. . . .

The bridge was situated at K Street, and was the first attempt to bridge Rock Creek, with permanent materials. A slight wooden bridge, which had been built at M Street by inhabitants of Georgetown in 1788, already needed replacement.² Harbaugh's plans and elevation are preserved among the District of

Columbia Papers at the State Department.¹ They show a single masonry arch, forty-two feet wide and sixty feet in span. Stone voussoirs of alternating lengths, stone quoins framing the piers at either end, a panelled parapet, and a filling of brick compose a design which is very respectable judged even by professional standards. The drawing of the fish in the bas-reliefs of the parapet is open to cavil, to be sure. In its main lines, however, the bridge is a worthy forerunner of the great arched structures which have finally, within the last few years only, been thrown across Rock Creek at Connecticut Avenue and at Q Street. The adjoining development, shown on the block plan, also reveals an enlightened sense for public improvements. A causeway and quay were proposed, with a public landing-place, and building lots filled in to pay the cost of the enterprise. The whole was an ambitious project, yet for the moment it seemed justified by the rosy expectations which were still entertained for the new capital city.

Harbaugh, it will be noticed, not only made the design for the bridge, but "undertook" or contracted for it likewise. His proposal² and the contract,³ show that the contract price was £3,250 "current money," and that the bridge



PLAN FOR THE CAPITOL—Abram Faw
(From the original drawing in possession of the Maryland Historical Society)

was to be finished in August, or sooner if possible. Harbaugh wrote:

¹Vol. 6, part 2, Nos. 157, 158. A similar design by Harbaugh, lacking all sculpture except two swags, is preserved in the Office of Public Buildings and Grounds, File No. 405.9.

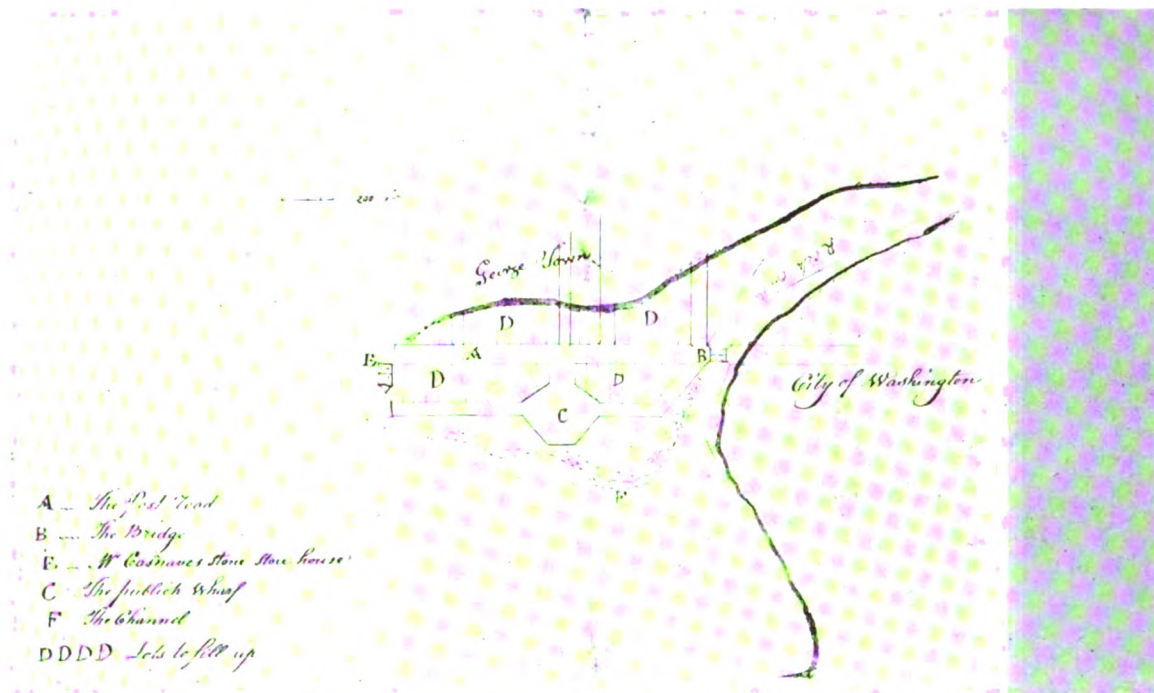
²"Letters Received by the Commissioners," No. 87, vol. 1.

³Department of State, "District of Columbia Papers," vol. 6, No. 110.

¹Department of State, "District of Columbia Papers," vol. 1, No. 91.

²W. B. Bryan: "History of the National Capital," vol. 1 (1914), pp. 62 and 243.

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792–1793



PLAN OF THE PROPOSED IMPROVEMENTS AT THE MOUTH OF ROCK CREEK, 1792.—Leonard Harbaugh
(From the original drawing in the Library of the Department of State)

"I shall require no Mony in advance but what may be expended in the progress—and that to be paid from month to month or if necessary from week to week as yourselves or your treasurer shall think fit vewing the work don & the materials collected."

He had also offered, if the Commissioners preferred, to build the bridge by day labor, to superintend the work "for one whole year or any shorter time at one Guinea per day and my reasonable expenses." The Commissioners wrote to Jefferson on April 14th, "Mr. Harbaugh who is a modest well tempered man, seems equally disposed and able to be very useful to us,"¹ an expectation which Harbaugh soon justified by devising stone-sawing machinery which was needed.²

The cornerstone of the bridge was laid with much ceremony on July fourth. Harbaugh himself informed the Commissioners of the arrangements,³ and marched in the procession at the head of "the artists and workmen concerned in erecting the Federal Bridge," as the *Georgetown Weekly Ledger* duly chronicled on July 7th.

¹*Ib.*, vol. 1, No. 95.

²Letter of the Commissioners to Jefferson, January 5, 1793 and that of Harbaugh to the Commissioners, October 27, 1795, in "Letters Received by the Commissioners," No. 139, vol. 1, and No. 690, vol. 7.

³"Letters Received by the Commissioners," No. 108, vol. 2.

When the design of the bridge was generally known, however, it did not escape criticism. Shortly after the laying of the cornerstone, the Commissioners received a letter from George French taking exception to it, both on artistic and practical grounds, for having but a single arch. He urged that the tidal flow required three arches. Influenced by such reasoning the Commissioners evidently considered adding supplementary arches on either side, and Harbaugh accordingly made a revised design which is preserved at the Office of Public Buildings and Grounds.¹ The central arch remained unchanged except in decorative detail; the parapet was stepped instead of forming a continuous slope.

Unfortunately, even the experience which Harbaugh had gained in building the arch under the Baltimore Courthouse did not prove sufficient to enable him to execute a stone arch of sixty feet span. The cost was soon found greatly to exceed the contract price.² Worse than this, on October 16, 1794 the Commissioners notified him that the bridge was not acceptable, and that they must bring suit on his bond unless, within a reasonable time, the structure should

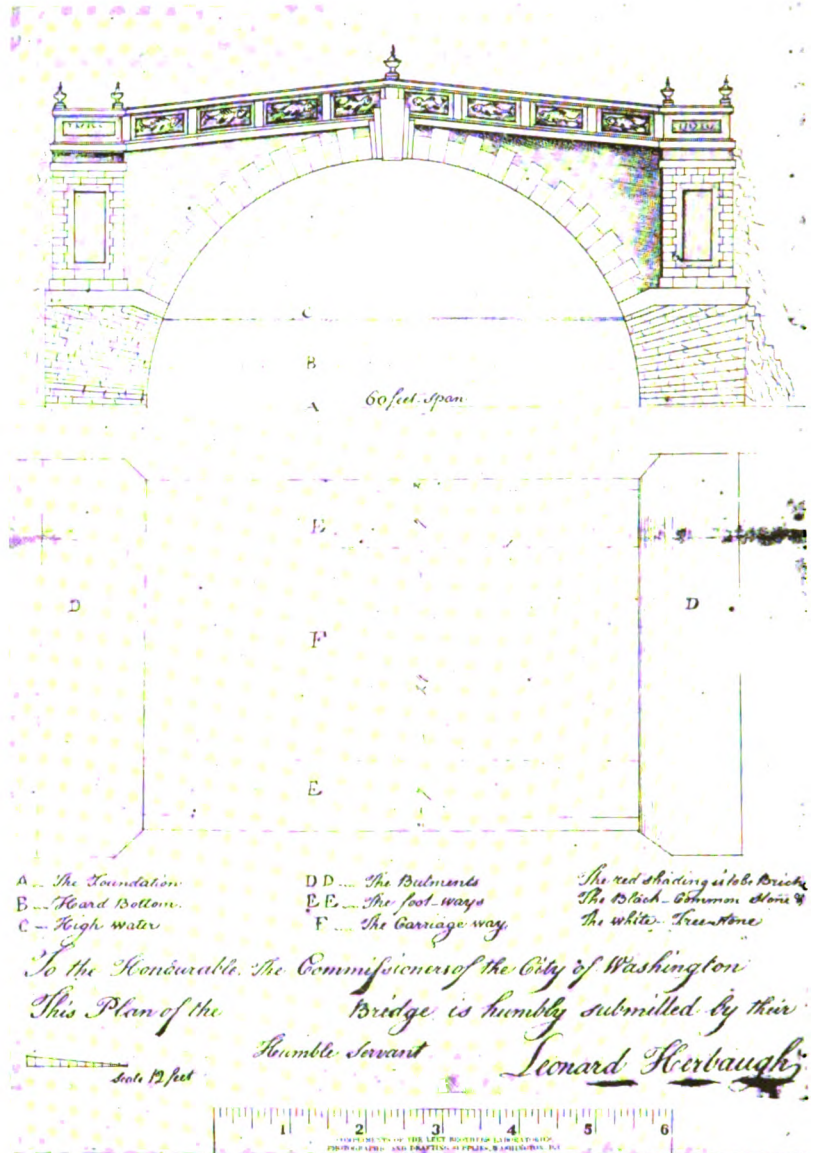
¹File No. 405.9.

²Department of State, "District of Columbia Papers," vol. 6, No. 26.

be put in condition to be accepted. Early in 1795 an agreement was made with the owners of the adjoining lands to take down the main arch, "which was in danger of falling," and to erect a drawbridge.¹ Careful examination of the site today fails to reveal any trace of the old abutments. To make good the loss of the Commissioners' advances on account of the bridge, Harbaugh refunded \$600 and gave a mortgage on the property which he had acquired in the city.²

For some time between 1795 and 1798 he was employed by the Potomac Company, which was engaged in improving the channel of the river and building canals around the Falls.

On the practical suspension of the work of the company in 1798, Harbaugh offered his services to the Commissioners "in the undertaking of some of the new buildings" or otherwise "in the line of my profation."³ The Board showed that his failure with the bridge had not discredited him, by accepting his bid of \$39,511 for the construction of the Treasury Building.⁴ It had been the lowest one submitted, one by James Hoban, the designer of the President's House, having been the highest. The Board's advertisement, Harbaugh's proposals detailing the materials and construction, and the contract, dated June 23, 1798, are all preserved in the Commissioners' records.⁵ The contract drawing of the elevation, from the design of George Hadfield, is in the Coolidge collection in Boston, and has been reproduced.⁶ This time Harbaugh gave such satisfaction that next year he obtained the contract for the similar



DESIGN FOR THE FIRST MASONRY BRIDGE OVER ROCK CREEK, 1792.
Leonard Harbaugh

(From the original drawing in the Department of State)

War Office,¹ and, the year following, for a new bridge over Rock Creek at M Street.² For this the Commissioners adopted a wooden bridge more in accordance with the real conditions in the city.

Here our present knowledge of Harbaugh ceases. He was not the only builder in his family: a reference in Latrobe's correspondence to a Thomas Harbaug³, who built the Hagerstown Courthouse from Latrobe's design in 1817.³

(To be continued)

¹"Proceedings of the Commissioners," July 29, 1799.

²*Ib.* September 11, 1800. Cf. Bryan: "History of the National Capital," vol. 1, p. 49.

³Letter of March 10, 1817, in possession of F. C. Latrobe, Esq.

¹"Proceedings of the Commissioners," January 9, 1795, and their report to the President, January 29, 1795.

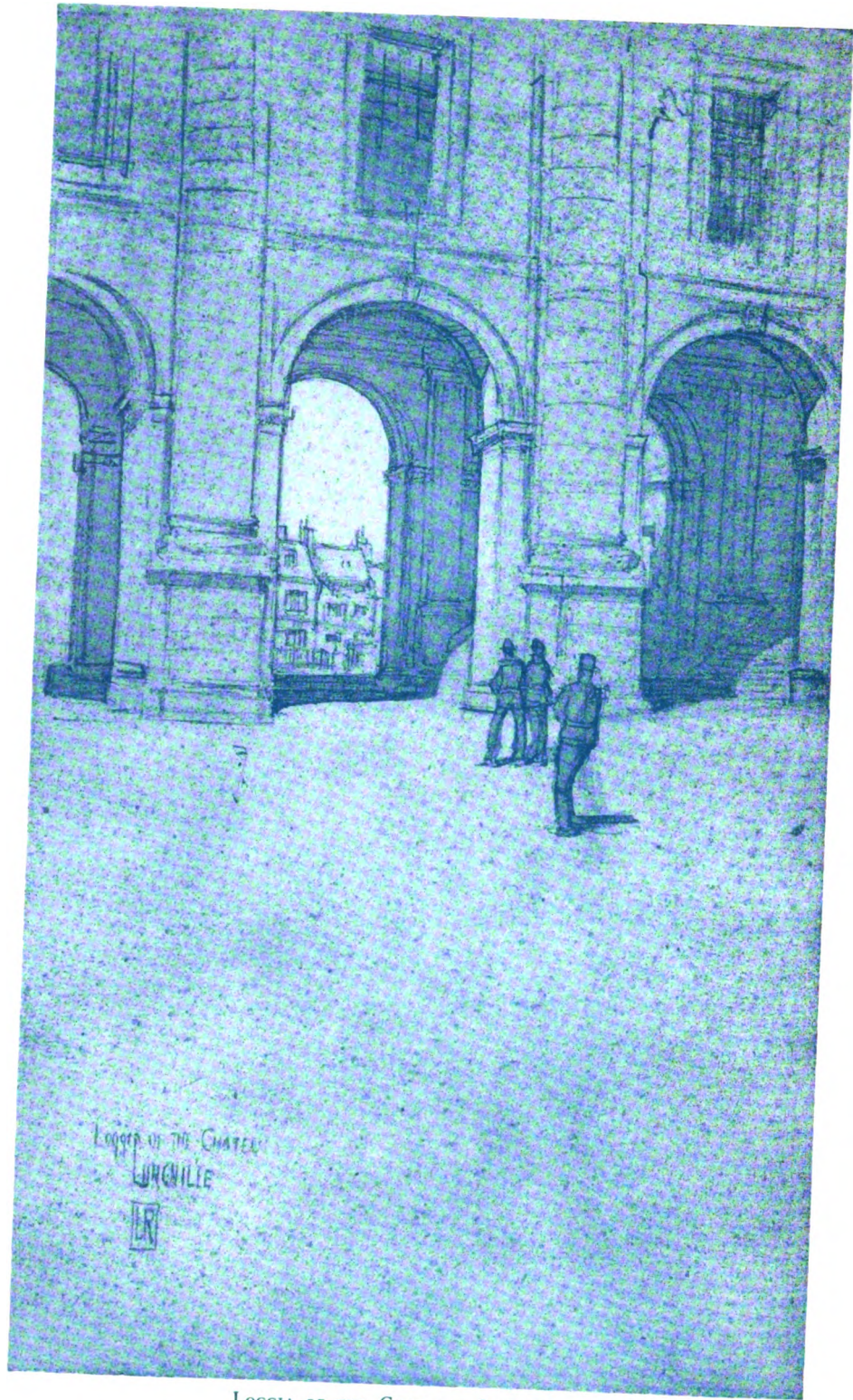
²"Documentary History of the U. S. Capitol," p. 62, and W. B. Bryan: "History of the National Capital," vol. 1, p. 243.

³"Letters Received by the Commissioners," April 18, 1798, No. 1335, vol. 13.

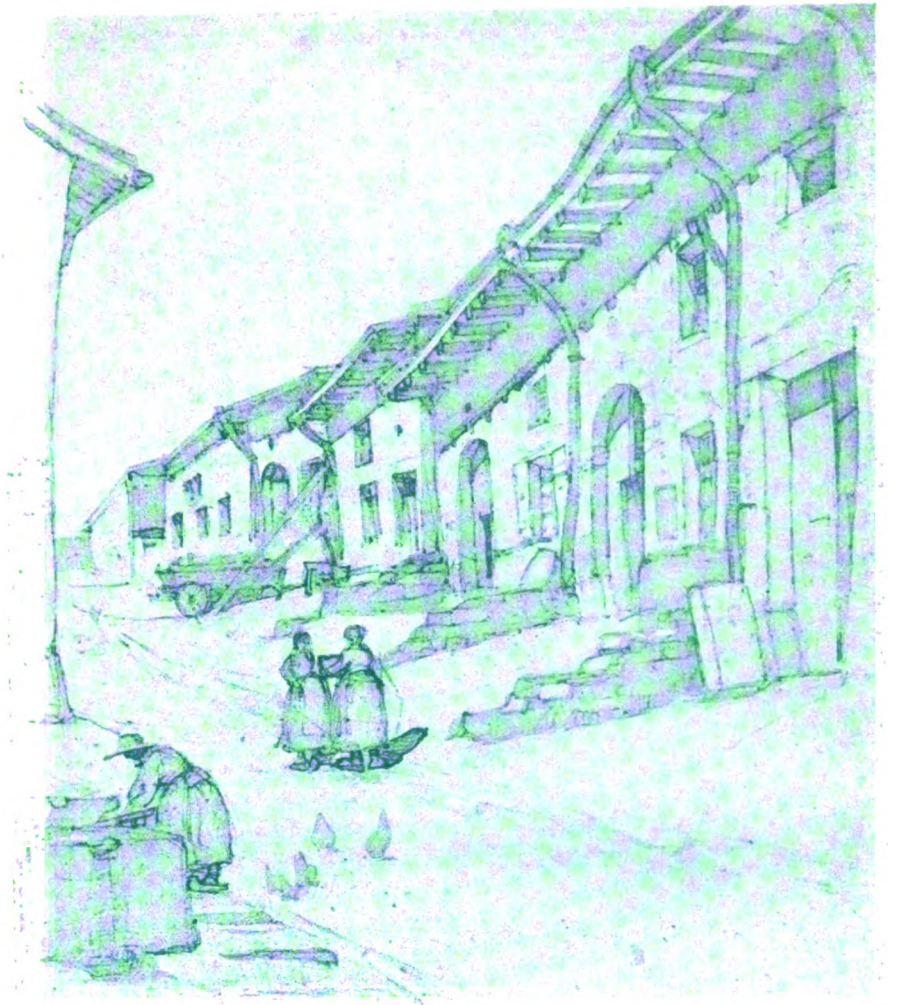
⁴"Proceedings of the Commissioners," vol. 4, p. 158.

⁵"Letters Received by the Commissioners," 31357 and 1381, vol. 13, and "Proceedings," vol. 4, pp. 162-165.

⁶Kimball: "Thomas Jefferson, Architect," fig. 180 and pp. 179-180.



LOGGIA OF THE CHATEAU—LUNEVILLE
After a drawing by Louis C. Rosenberg



NEUF MAISON—RUE DE BRUXELLES
After a drawing by Louis C. Rosenberg

Post-War Committee

In addressing the first session of the Post-War Committee, President Kimball spoke as follows:

The Professional Principle

In considering the professional aspect of the Post-War Committee's inquiry, we are by its circular invited to treat the subject as one of relationship.

"Are we in right relation with those we serve—the public?"

"Are we in right relation with those with whom we serve—all those who help us to build?"

"Are we in right relation with those who parallel our service in our own and our brother professions?"

It is my province to point out the part professionalism does, and may, play in all this. That we may arrive at something tangible, we must, at least for argument's sake, come to common ground on the thing we are talking about. What is this principle we call professional, and which we are all so willing to have associated with architectural practice? To me it is what remains after you eliminate the art we have chosen to patronize and the commerce which we are forced to practice in order to patronize that art. It is the third corner of the architectural triangle.

Art.—Our art, architecture, gives its name to our calling and the objective to our life's study, and, to some, the very God they worship.

Commerce.—That life may be sustained we serve with great fidelity that corner of our *cadre* which has to do with the *quid pro quo*, and in its service we are forced to cultivate a side of us that can but be destructive of the thing on which our art depends. Here I find the great paradox that we are living—living with such indifferent success; both elements as intensely selfish as they are involving, the one working to the limit to nullify the other. It is a good example of that "cancellation of effort" which accounts for much professional ineffectiveness.

There remains the third corner, the professional element, universally approved and respected, meagerly understood, however, and but weakly followed. As a principle, it seems to me all that is unselfish in our vocational lives, all which has to do with the welfare of those in

whose service our lives are spent—our clients and the public.

A glance at any of the recognized professions will show, I think, that each has its own titular objective that corresponds to our art of architecture, and each, by virtue of necessity, its destructive, though essential, commercial corner, which in each case is balanced by this unselfish counter-irritant—its professionalism.

In medicine, law, engineering, in fact, in any profession, as in architecture, the titular objective is always essentially selfish and full of the limitations of selfishness, but in no other particular are these objectives at all alike, nor do they offer any common interest, while in the commercial and professional elements all professions seem to be clearly alike, the one element an undesirable, and the other a most desirable, common factor to all, and of surpassing importance, it seems to me, in this matter of inter-relationship which we are considering. It is to the possibilities of the professional element as a democratizing influence within each profession, and as common ground between all professions, that I wish to direct your attention.

Art, through its exclusiveness, tends to disorganize, to separate into *cliques* and then to subdivide them, a process that results in impotence. This is why art affords no bond that binds, and why its associations are so often ineffective and short-lived.

Commerce, on the other hand, has long since recognized the importance of effective organization, which makes it such a terrible thing with which to contend, and results in such a secondary role for art, where they assume to practise as partners. On the other hand, in his professionalism, the least among us, or among any of our brother professions, may aspire to be the peer of the greatest in the purity of his profession and in his joy in its practice. It is for this reason that the professional principle stands high as a possible bond of union among and between all those who aim to render skilled service for a fee shorn of contingent profit, and where the interests of client and public are cared for first.

I referred a moment ago to "professional ineffectiveness." What I had in mind was the condition resulting, not only through the failure

to help each other, but subconsciously, perhaps, through the habit of interference with the successes of each other, that characterize the relationships of professional men, a condition brought about, I think, quite naturally, as a result of professional intelligence which clearly discounts the assumptions and presumptions in others that it condones in itself. A perfect familiarity with—in fact, the profession of—some fifty odd sciences, each worthy a man's life study, is an architectural assumption or presumption that may well explain the discount with which Medicine and Law are apt to receive our professional advances; while between Law and Medicine the assumption is as aggravated and the discount as complete—witness the past ten years of futile effort at closer association between those two great representative professions. While many will fail to accredit the truth of this, my latest assumption, I doubt if any will deny the prevailing custom among professional men to indulge in tales of discomfiture to and of each other and before audiences proven to be more interested than discerning. To me the story that begins "once there was an honest lawyer"—like those which exploit the disasters that result from our own traditional weakness in the matter of estimating costs—has caused our respective professions to lose enough legitimate patronage to explain the full difference between success and failure in countless professional lives.

If, through professionalism as a common factor, we could reach an inter-professional understanding, based on helping instead of hurting each other, the result to the young man in the profession would, I think, be beyond price. If only some one of our brother professions would catch from our post-war activity a kindred self-questioning desire—and from the example others might follow—is it too much to hope that from some broad-minded doctor or brilliant exponent of law may not come the suggestion of a brotherhood of professions based on this common factor, this professional principle, of skilled service to others? A brotherhood or league, not of a chosen few, but of all those callings that can qualify as practising professionally; and, in such an event, might we not find recompense sufficient to have fully justified the creation of our Post-War Committee?

This idea of a brotherhood or league of professions is a very pleasant one to me, with its

measureless programme of accomplishment and its limitless possibilities. First, the suggestion, followed by the response of all those who really are professional, gathering together to decide what the professional principle really is and who shall carry its banner, followed by organization, perhaps of a permanent ethical court with which to safeguard its future, and whereby each profession may, with the help of the brother professions, do what alone we have all so far failed to do, really clean house.

I am so obsessed with this idea that I do not stop at anything short of an intellectual power capable of doing the undoable thing, namely, setting a limit to the advance of that organized selfishness we call commerce, something that, it seems to me, must be done if there is to be preserved to mankind this priceless thing—the professional principle.

At all events, such a brotherhood could not fail to result in eliminating all that cancellation of inter-professional effort that now obtains, and which alone would give to the professional beginner, including the young architect, his chance to acquire a competency honestly, and before the juices of life are so dried up as to preclude his making any worthy contribution to the art to which he has devoted his life. After all, it is the welfare of this young architect which interests me, and which I had in mind when I asked the Board to create the Post-War Committee on Architectural Practice.

The Future Programme of the Post-War Committee.

On the afternoon of the day preceding the Convention at Nashville, there was held a meeting of the Post-War Committee where the work already done was considered and where the suggestions of the members as to additional lines of investigation were presented for discussion. The meeting unanimously resolved to recommend the continuance of its work to the Convention.

On the day following the Convention, another meeting of the Committee was held for the purpose of summing up the discussions which had taken place at the four sessions of the Convention devoted to the Post-War Committee, and for offering suggestions to the Executive Council as guidance in determining a future programme.

The Executive Council will hold a meeting as soon as its members can make a preliminary digest of the opinions received through correspondence as well as of the voluminous but thoroughly interesting and very illuminating discussions at the Convention sessions. It will then consider the best plan for organizing the work of the Committee, either through subcommittees, Chapter committees, regional committees, or by the use of all three, and will issue a statement embodying its plan for organization based upon the evidence so far submitted.

Some Notes on the Education of the Architect*

By H. VAN BUREN MAGONIGLE

BELIEVING, as I do, that education is the foundation of all human relations, I confess to a sense of surprise that the discussion of it was relegated to the end of the Convention programme instead of being placed at the beginning—the beginning seems such a good place to begin. But then, like everyone else, I am always surprised when everyone else doesn't think just as I do.

I believe that it is not the province of a member of the Post-War Committee to debate the various questions the Executive Council has propounded to the profession, but to preserve, in so far as one's physical conformation may permit, that Olympian mien and that impartial, judicial attitude so necessary to a body which is to hear all, judge all, and prescribe remedies for all the ills now besetting us. What I am about to say, therefore, is not in the nature of debate—it is a statement of convictions which may be debated by others if any of them seem worthy of debate.

Conviction 1: The more I read the communications of the Council of the Post-War Committee, the more firmly convinced I am that there is not an evil or abuse in the whole category that would not be corrected by the proper education of the architect.

Conviction 2: That if architects, architecture, and the practice of architecture are in the mess they are alleged to be, it is because architects are superficial, selfish, half-baked, and far less than half-educated.

Conviction 3: That the growth of these evils and abuses is directly chargeable to the men who have dashed into practice straight from the schools, without any adequate office experience whatever; to the men who have gone into practice straight from the offices without any cultural training whatever; to the practising architects who feel so slight a sense of responsibility to their assistants that they permit them to pass through their offices without any effort to give them guidance or schooling; to the men who care more for financial success than for a good job well done; to the men who dream and make no effort to make their dreams come true; to the selfish and the slackers who whine along the sidelines and complain of those who are bucking the line; to the indifferent who don't care; to a professional society which, up to six or seven years ago, had no Committee on Education, which has never even established a scholarship in architecture, and which, after sixty-two years of existence, can only exhibit a small annual prize at the American Academy in Rome and ten trumpery watch-fobs, costing \$1.60 apiece, awarded annually to ten schools of architecture, as the sum total of its contribution to architectural education, the members of which society, nevertheless, have had the impudence to propose the education of the public in appreciation of the architect.

Conviction 4: That if the schools of architecture are defective, it is less the fault of the schools than it is of an organized profession which permits defective instruction in the schools.

*An address delivered at the Fifty-second Annual Convention of the Institute.

Conviction 5: That unless, after what I have said, I present some constructive suggestions, I shall be damned, and justly, as a kicker without a programme.

I therefore offer the following:

Suggestion 1: That, since, in modern architectural practice an architect must have, to be well rounded out and equipped, more than a mere smattering of the following subjects: Design and composition; scale; color and painting; sculpture, modeling, and carving; light and shade; texture; the use and characteristics of all the materials which enter into building practice and their proper treatment esthetically and constructively; furniture and fabrics; soils; foundations; drainage; plumbing; heating; ventilating; electricity in most of its branches; acoustics; building methods, local and general; building laws and ordinances in forty-eight states; building loans; real estate; specification writing; business methods; finance of the high, middle, and low; accounting; organization and administration; tact; diplomacy; human nature in all its masculine and feminine manifestations, whether in client, employee, contractor, workman, or fellow practitioner; the history of art; the history of the world; land and its proper use and value; the return to the land of the soldier who doesn't want to go back or never was there; economics; single, double, or triple tax; Henry George; politics; the duty of the citizen; socialism; civic organizations and how, when, and why to join them and not neglect one's business; how to take an Important Place in the Life of the Times; how to eschew the "rich or moderately wealthy" client in favor of the poor who never build anything; how to avoid hysterics when studying the last-named subject; how to be a contractor and yet maintain in spotless purity one's professional status; how to advertise and yet remain the modest and retiring gentleman an architect should be; salesmanship; social customs—the comb, the tooth-brush, and the fork and their uses; the toothpick, its use and care, its abuse and disuse—these and many other items essential to the complete equipment of the architect, which will readily occur to all of you, I submit can hardly be learned in the two-, three-, or four-year courses offered in the schools nor, without help, in twenty years in an office.

Suggestion 2: That the architectural bodies of the United States should combine to establish a school of design with branches in two or three of the great building and financial centers, intimately related to the body of practising architects, as will be suggested presently, in which the study of design and all cultural subjects shall proceed side by side with the study of building practices, business methods, economics, civics, and the like, and in which all branches of study shall be given constant and continuous practical application as a constant test of efficiency and means of correction.

Suggestion 3: That in these great building and financial centers, practising architects shall pledge themselves to receive into their offices duly matriculated students and arrange to give them practical training for and during such periods as may be determined on, upon a scale of remunera-

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tion such as will permit the student to live and to take the theoretical courses in the school.

Suggestion 4: That the total course in theory and practice combined shall be not less than ten years in length.

Suggestion 5: That the architectural profession should bend every energy to the establishment of laws prohibiting the practice of architecture by anyone who cannot prove an experience practical and theoretical of at least ten years, and in the course of time a diploma as a guarantee of proficiency.

Suggestion 6: That a two-, three-, or four-years' divorce from practical application of what one learns in an academic course is unsound; that summer work, so-called, is little better, and that theory and practice should be made practically synchronous.

Suggestion 7: That the study of design as such should precede the selection of a career as architect, painter, sculptor or designer in the crafts; that up to a certain point the training of the architect, the painter, and the sculptor should be identical.

Suggestion 8: That what we need is not more draughts-

men and assistants, but better draughtsmen and assistants.

That what the country needs is not more architects, but better architects.

That what the architect needs is not only more education, but better education to fit him to serve his country and his art.

Suggestion 9: That when the architect is properly educated and trained, when to the inculcation of ideas of probity in art and in his relation with the world is conjoined a knowledge of the world of business and human nature he is to go forth to face alone—when, in short, he knows his job, all his job, “new forms of architectural design,” his relation to his client, to the contractor, to labor, to his community and to his country, will all have been provided for in advance.

And at the head of such a school as I have suggested, I would rather have a great human being like Theodore Roosevelt, a man all through, a practical idealist, with his head among the stars and his feet planted firmly on the earth, than the greatest designer in the world, to teach architects how to be “men in a world of men.”

Professional Problems in England

While the Post-War Committee on Architectural Practice is pursuing its task in the United States, evidence is coming to hand of the similar work which is being done elsewhere. At a special meeting of the R. I. B. A., in London, in March last, several aspects of the present situation were considered. While the discussion opened with a general statement urging the necessity of legislation which would, in some measure, restore public confidence in the English building industry, there developed many opinions as to what was really the trouble. While it was pointed out that the cost of building had probably doubled, or more, since the beginning of the war, it was also made plain that there was great danger of the absorption by the government of the functions of the architect in carrying out the great housing schemes, a work toward which the profession has looked for some time as a means of livelihood during the after-war period of readjustment. Mr. Max Clarke said, in commenting upon what he considered the failure of the profession properly to safeguard its interests in this connection: “So far as the position of the architects is concerned, until all ranks among them band themselves together to try to do something for themselves they will be no better off. We are all too isolated, and we shall never be in a better position until we combine, whether by means of registration or not. It is to the rising generation I would address my remarks. Until the rising generation do something for themselves they will always be taking a back seat!”

Lieut. Scott Cockerill suggested that “the Council consider the advisability of forming amongst the whole profession a union on exactly similar lines to that already formed by the medical profession.”

Mr. P. M. Fraser, supporting the suggestion, urged that the proposed conference “should not consist of ten or twenty, but of several hundred. Every member of the profession should be approached, every class of the pro-

fession should be invited. . . . This will be an opportunity, once and for all, to crush the antagonism which exists between the R. I. B. A. and the Society of Architects. . . . The Institute and the Society of Architects must come together.”

Mr. Delissa Joseph, the next speaker, urged such a union. He said: “Looking back over the last few years, what is the situation? No other profession has permitted itself to be absolutely suppressed, crushed out, as the architects’ profession admits itself to have been. Why? Not because there was not work for architects to do for the advancement of the interest of the country during its period of crisis; simply because the profession was disunited, and, therefore, incapable of presenting an unbroken front to the Government and the country. . . . It seems impracticable to try to induce the Government to take a greater interest in the building industry unless we present a united front. Rather let us have . . . a conference of all the architectural societies in this country to consolidate and close the doors of the profession.”

It was resolved: “That the Council be asked to consider the advisability of calling a conference of those interested in the building trades, for the purpose of making representation to the Government, with the view of restoring public confidence in building.” In respect to the great problem of a united profession, a problem that has been long delayed in England, it was finally resolved: “That this meeting, called to consider the professional problems of the moment, urges upon the Special Committee of the Institute to expedite its report, and to take into special consideration the practicability of bringing about a complete union of the profession.”

The Special Committee referred to is much like the Post-War Committee on Architectural Practice, now taking evidence and gathering facts in order to make its report to the profession in the United States.

Unifying the Profession in South Africa

IN January last, at Capetown, South Africa, there was held a conference organized by the Registration Committee of the Cape Institute of Architects for the purpose of discussing the advisability of approaching the Union Legislature with a view to the promotion of a registration act for architects in South Africa, and also to ask the Legislature for the incorporation of the South African Institute of Architects.

At present, the only province in the Union of South Africa having a registration act is Transvaal, and this act prevents architects from any other province from practising in the Transvaal without first securing a license and paying registration fees and annual subscriptions to the Association of Transvaal Architects, for the right to practise in the Transvaal. It appears that architects in other provinces feel the injustice of this arrangement, inasmuch as Transvaal architects may practise where they please in other parts of South Africa.

The conference exposed some differences of opinion, as might be expected, but ended in the appointment of an executive committee to approve the detailed terms of a registration act in accordance with the principles agreed upon at the conference. The conference also adopted the principle looking toward the statutory incorporation of an institute of South African architects, consisting of a federation of the various provincial institutes and vested with legally defined powers for administering the registration act where collected action might be required for the whole Union. The conference was almost unanimously in favor of the principle of registration, and yet one cannot read the narrative of the event without being greatly impressed with the basis of the opposition offered by Mr. J. M. Solomon. His remarks have to do with the question of esthetics alone, but they involve a principle which the framers of every registration act would do well to bear in mind, and that is that you cannot produce great architecture by legal methods alone. Mr. Solomon's remarks are well worth reprinting. He said, substantially:

"I hold that any motion (the adoption of the principle of registration) of the kind such as is before me and has been proposed does impute a motive. It imputes a motive in this respect—that it holds that in South Africa there is a particular caste of men who have the rights and privileges which others have not acquired, and for that reason you should have registration in order to prevent anybody else from exercising those privileges."

Proceeding, he said he had listened that afternoon to their expressions of opinion in regard to this motion, and all he had been able to deduct as their apparent desire was an organization of the profession in South Africa, and as to that he saw eye to eye with them. But when they went a step further, and said that their organization meant the closing to themselves of what they were prepared to call an architectural profession, he was altogether opposed to their methods.

As a young practitioner, as one who perhaps was inexperienced in the art of architecture, he had gone to those high priests who in the past had taught them what their

art actually was, and he had said to himself that amongst the men in South Africa today who were calling for the registration of the profession, he did not find one whom he could reverence to the extent that he could reverence the masters who were opposed to those ideas.

They had heard a great many platitudes that afternoon about the national and patriotic ideals which were the motives impelling the motion. They must be more frank. The motion was to protect architects; not architecture. Then he had to oppose it. When the chairman said that the motion was for the purpose of having a national architecture in South Africa, he must draw swords with him. He did not believe that the measures which they were now proposing would help one single iota to build up a national architecture, for the reason that he believed that men only came to their fulness by other measures than those they proposed to adopt.

He felt that the need was education, not registration. That was the only method of securing what was essentially needed—the utmost proficiency in the science and sanitation side of their work. He did not, however, believe that the higher and more important part of architecture—the imaginative and inventive qualities in design, without which no man could claim the title of architect—could be brought to the examination test or be stimulated by any artificial protection such as registration.

He remembered an infallible argument against qualification by registration which was used by the late Norman Shaw. He hoped that there would be no difference of opinion as to Shaw's qualifications to speak on a subject of this nature, for he was somewhat alarmed to hear that tradition and the reverence for men like Christopher Wren was swept aside by the advocates of registration.

Shaw said that there was at St. Paul's an excellent model of the cathedral prepared in Wren's time, and that since then most careful measures, drawings of every portion of the cathedral in plan, section, and elevation had been made by students, so that the most complete data existed for the rebuilding of the cathedral should it be destroyed. "Now," said Shaw, "there could be found ten thousand men today who could rebuild the cathedral, and build it better than in Wren's day, but could they produce one man who was capable of designing it?"

Surely the latter alone was the person entitled to be called architect—not the thousands who could build it? They could all be examined in the science of building, but how could they by such measures discover the designer? That capacity for thinking in three dimensions which Wren so eminently possessed was the primary qualification for an architect, and without it there was no right to the title. Since that could not be discovered by examination, he objected to any legal right being given to a man to call himself architect when by no manner of means had he been discovered to possess an actual right. A man's work alone could prove that.

He believed that to attempt what was proposed by the advocates of registration was to legislate for inefficiency and a general level mass of half-baked mediocrity.

Housing in England

THE SECOND READING of the now famous Housing Bill for England occurred in Parliament on April 7. Doubtless, a large number of people in England are taking a greater interest in the fate of this bill than they are in the results of the Peace Conference, so acute is the house-shortage in England and so much does it complicate the industrial problems of the hour. This is the first bill of importance since the Town Planning Act of ten years ago, under which so little rehousing was accomplished,—some thirty-two schemes during the period,—plainly indicating that England is still a long way from having found the solution she has sought.

Dr. Addison, president of the Local Government Board, which body will be charged with the administration of the housing schemes, spoke at great length on the occasion of the second reading of the bill. His figures on the existing condition were wholly inadequate, as he himself admitted, but taking the returns for the period of 1914, it was plain that conditions were seriously defective.

"There were about 3,000,000 people living in overcrowded conditions,—that was more than two in a room,—and in the area covered by the London County Council their return showed 758,000 living under these dreadful conditions. The cost of tuberculosis generated in these slums must be many millions every year. Therefore the question of the slum areas must be dealt with as part of their housing scheme. No scheme which centered solely on building houses on open land would suffice to deal with existing evils. There were 1,800 Local Authorities entitled to deal with housing, but their powers were wholly inadequate to remedy the evils. The cost of acquisition of sites was almost prohibitive in every case, and no solution of the problem could be complete unless they could make the cost of acquisition in some way reasonably commensurate with the value of the land.*

*The bill, as offered, provides for the purchase of land at the price it would bring if offered to a bona-fide purchaser.

"But among other material helps the greatest was the financial help. What the scheme of financial assistance came to was that when a scheme was approved the Government undertook to finance it for a provisional period which would probably be seven years, during which time an annual subsidy would be made on the basis that the charge falling on the Authority of the area should not exceed the produce of a penny rate. At the end of that time there would be a resettlement of the amount, and if it appeared that the annual charge to be borne by the Local Authority was likely to exceed the produce of a penny rate, the annual subsidy for the remainder of the loan would be finally fixed at a sum calculated to cover the excess. What the amount would be depended on the rents obtained."

DR. ADDISON ALSO POINTED OUT that the shortage in houses was both real and concealed. That is to say, the arrears due to war is estimated at about 350,000 houses, while in 1914, there were 70,000 houses unfit for human habitation, and about 300,000 houses which were seriously defective.

Elsewhere in this issue will be found further details of the situation in England, and we have also included with this number a supplement containing a great part of the report of the Women's Sub-Committee on Housing, so interesting are its conclusions, and so clear an idea do they give of what needs to be done in England in order to attain a decent measure of social improvement. Our own problems are grave as well. New York City finds itself in the throes of a housing situation which causes great distress and suffering. New York state is big enough and rich enough to embark upon a far-seeing scheme of housing reform, involving the control of great areas of land where the evils of speculation cannot destroy and corrupt.

What an opportunity to lead the world! Where are the leaders for a real solution of the housing problem?

The Housing Crisis in New York City

In the New York newspapers only the Peace Conference can rival in importance the discussion of rising rents and the suffering of families dispossessed or forced to move into insufficient quarters—committees and commissions without end are trying to put an end to so-called "rent profiteering." The state legislature and the City Fathers have proposed numerous methods of limiting the returns of landlords to a "fair rental." But no one has yet suggested the

proper basis for fixing a "fair rental." The landlords try to justify the increased rentals by the claims that for years they have been losing on their properties and that during the war the cost of management has greatly increased. A large part of the present owners have had but little profit from their tenements. Many have lost in the past. They now see their chance to regain some of these losses.

THE HOUSING CRISIS IN NEW YORK CITY

After a careful study of the situation, the Housing Committee of the State Reconstruction Commission has concluded that it cannot be met by any attempt to limit rentals.

As the Housing Committee diagnoses the case, rising rents are only a symptom. The disease is lack of sufficient livable houses. The causes of the present trouble are deep-set and rest fundamentally with our whole system of housing. But the emergency is so pressing that the Reconstruction Commission is, for the time being, postponing its attempt to deal with the roots of the problem.

New York City will soon be without sufficient houses to care for its ever-increasing population. At present, in the city of almost 1,000,000 apartments, where normally 5.6 per cent of the apartments are without tenants, there are only 2.18 per cent vacancies. These are mainly in the old-law tenements, which are poorly lighted, unsanitary, practically unlivable places. They are principally in those parts of the city which are inhabited by the foreign born. There has been no immigration for a number of years; in fact, a great many Italians, as well as citizens of other allied countries, have returned to their own lands. Their former homes have remained unoccupied. Why are there so many people in the Bronx and upper Manhattan complaining of rising rents and lack of houses when these apartments are vacant?

So that the public may understand why those who have left the slums of New York City will not return to them, the Housing Committee of the Reconstruction Commission is conducting a novel survey. It is being assisted by thirty organizations, such as neighborhood houses, women's clubs, and groups of the people of the various neighborhoods. They are making an intensive study of characteristic blocks in the various congested parts of the city. Each association is making the survey of a single square block. Every tenement is being visited and a record made of the number of persons dwelling in each apartment, the wages, present and past rentals, as well as the psychological reaction of the tenant to the conditions in which he lives and the treatment which he is receiving from the landlord. Notes are made as to the general condition of the apartment as well as the type of management, whether it be by the owner, an agent, or by a speculator who has leased the property with hope of quick gains. The Tenement House Department is supplying the informational data on the tenements, how they are lighted, ventilated, heated, how they are built. The officers of the Health Department are giving records of disease and death in the blocks studied and the charitable organizations are supplying the data that they have collected in regard to poverty in these regions. All these organizations, and departments of the Government, as well as the visiting nurses, the students in statistics and social science of the universities, and numerous other trained and volunteer workers are coöperating with the Reconstruction Commission to bring together and arrange the material from which can be drawn a complete picture of life in these thirty blocks in the congested parts of New York City. These surveys will show whether the scarcity of houses and the raising of rents, which is forcing so many families into poorer quarters, have resulted at the bottom in discontent, the lowering of the standards of living, or in more than the usual overcrowding. It is

hoped that they will serve further, not only to bring together information on which to base plans for a proper type of housing, but that above all they will arouse the public to the need of improving living conditions. An attempt will be made to discover, as far as possible, the relation between housing, health, morals, happiness, and the general welfare. The principal object of the survey is educational. For it is apparent that no change of lasting value in our methods and standards of housing can be secured unless there is an intelligent public understanding of the object of change. The first step toward a better type of housing must be an understanding of existing conditions and the causes of these conditions. There is but little question that all of the organizations and individuals who have taken part in this democratic survey will be united in the decision that when we do start building houses again we must build sanely. They will know and insist that housing is a social, not a financial, problem.

The time when building is put under way cannot be long postponed, for New York faces an actual housing shortage. The only vacant houses are in practically unlivable tenements erected before the new tenement law of eighteen years ago was passed. Next winter many of the working people will be forced to move away because they cannot afford to pay the rents. Outsiders will be discouraged from coming to New York and business and industry will be hampered because of lack of sufficient workers. New York will experience the same labor "turnover" and slowing up of industry as did the towns that made munitions and ships during the war. The Government found that the only answer to the difficulty of these people was homes for the workers, sufficient homes, good homes. New York's answer to present housing difficulty must be the same. But here we face a dilemma. The speculative builder is frightened at present and refuses to build. He is afraid, not of past, but of future competition. He fears that the prices of building may decline. On the other hand no governmental aid can be secured this year soon enough to meet the emergency. It will probably be some time before national legislation to assist housing can be passed. State aid in New York is only possible through a constitutional amendment, the passage of which would require three years. But the future welfare of the city demands that the building of houses be started at once.

The Reconstruction Commission believes it has found a way to break the dead-lock and to solve our temporary housing problem by supplying more houses. But it must have the support of the citizens. CLARENCE S. STEIN.

Welfare and Housing. By J. E. Hutton. London, 1918. Longmans, Green & Co. \$1.50.

While largely a war narrative, since the writer was manager of the labor and catering department of Vickers, Ltd., as well as a member of the Food Investigation Committee of the Ministry of Munitions, this book contains information of value as related to the planning of dormitories and catering departments. The experiences and theories narrated shed much light upon the paternalistic method of dealing with the labor question. There are chapters on Food Values, Hospital Service, Amusements, and a brief one on Permanent Housing, briefly descriptive of Vickerstown.—B.

The Housing Question in Other Countries

Garden Cities as a National Housing Policy in England

In the memorandum submitted by the Garden Cities and Town Planning Association (England) to the Local Government Board, it is urged that the garden-city principle be adopted as the basis of a national housing policy. The Association says:

"The fact that the provision of workmen's houses has now definitely been accepted as a national responsibility, brings within reach the formation of a settled housing policy for the country as a whole. That policy cannot, however, be formed so long as housing is upon a purely emergency basis; it requires to be considered in relation to the problems of town-planning, transit, and the location of industry, with which housing is inseparably connected. We believe that, in view of the nature of the problem, it is of the first importance that no time be lost in preparing the foundations of a sound policy for the future.

"Sound housing finance requires that the increased land-value produced by development should be enjoyed by the state jointly with the Local Authority; the increased land value would then set off against the loss incurred in building. This advantage can only be secured by building on land of agricultural value; and that, we suggest, can only be done by a combination of housing and industrial development organized on a large scale."

They propose the establishment of a national town planning commission with wide powers. Such a commission should be actively at work in every state in the United States at this moment, preparing to formulate definite principles by which to regulate both housing and industrial developments. Or shall we remain always from fifty to a hundred years behind in profiting from the lessons taught by English experience?

A Sensible Housing Law Proposed for England

The deputation from the Society of Architects (London), in waiting upon the Local Government Board to urge that competent architects be employed to handle the vast housing schemes now developing in England, in preference to having the work done by the Government Office of Works, advanced arguments which it is not necessary to repeat here. One of them, however, is well worthy of special comment. It was pointed out by the deputation that "Restrictive by-laws (tenement house laws) could safely be scrapped if the Housing Schemes were placed in the hands of competent architects. The only essential regulations required for Rural and Urban Districts were, (a) proper provision for sanitary and hygienic requirements; (b) the prevention of and escape from fire; (c) that all buildings shall be constructed of sufficient strength and stability. The Society's proposal was that new building laws should be drafted by a Joint Committee of representatives of the Society, the R. I. B. A., the Surveyor's Institution, and the Institution of Muni-

cipal and County Engineers. Any dispute on the laws to be referred to a permanent tribunal consisting of the Joint Committee with the addition of a Chairman appointed by the Local Government Board."

The day of restrictive legislation as a cure for housing ills is passing very fast. While it operates to prevent one kind of evil, it encourages the spread of another, and there is already grave question whether the net results from the latter are not worse than from the former.—B.

A National Development Plan for England

In his presidential address to the Town Planning Institute (London), Mr. S. D. Adshead dwelt with great emphasis upon the necessity for basing the many housing schemes in England upon right principles of town-planning and upon the equally important need for having these schemes studied with relation to the whole problem of the future development of the country. To this end, he proposes the making of "a Development Plan for the whole of England." He states that the question of scientifically locating the 300,000 houses to be built is being evaded, and that, as a consequence, the mistakes will become very serious as the work goes on.

Mr. Adshead's remarks are quite in line with a recognition of the necessity for enlarging our town-planning vision within the near future, until the nation is made to balance its books, take account of stock, and make plans for its physical development which shall not permit unrestricted individualism longer to make heedless speed with heedless waste and destruction as a result. It is time to take the large view and the long view and to gain an intimate understanding of the interdependence of our national welfare and progress. It is time for our states to consider a state plan, based upon the control of the location of industrial undertakings of every kind. The zoning principle must now be carried forward another stage.

Writing on "The Public Control of the Location of Towns" in the *Economic Journal* (England), for December, 1918, Mr. Edward Ormiston has the following to say:

"Theoretically, the best situation for industry is a relatively small town with a good technical equipment and a varied population, and, above all, with industrial areas planned in relation to means of transportation. Not many such places are to be found. They cannot arise spontaneously, because to give them a reasonable start requires concerted action on a large scale. Under medieval conditions a handful of mechanics, feeling the pinch of town taxation or guild tyranny, could migrate to a free-trade village like Birmingham with prospects of success, and, others following suit, a new center could easily arise. Under modern conditions a piecemeal migration is not possible. The very interdependence which makes modern industry so productive operates to prevent its transfer to places where productivity might be still greater. Business coöperation is wonderfully complex, but it has no integral consciousness; and the negotiations and bargains necessary to a concerted migration would be far too elaborate to be

THE HOUSING QUESTION IN OTHER COUNTRIES

conceivable. But occasional attempts in this direction show that the idea is present in the minds of enterprising manufacturers. . . .

"For reasons similar to these Mill placed the establishment of new colonies within the province of government. If it comes to be accepted that there is a case in theoretical economics for manufacturing centers of definite type and size, clearly the argument for the entry of the State as organizer of new towns would be strong. Nor would the argument, or the intervention, stop at the initiation of fresh settlements. Ultimately, it would seem certain, the whole scheme of urban distribution would have to be made the subject of a unitary social design. . . .

"Vast numbers of new houses have to be placed somewhere. Thousands of factories and workshops have to be built to meet the new conditions of industry. Where are all these to go? The State finds itself forced to answer this question, since its influence, by the accident of events, is decisive. It is vital that sound principles should be agreed upon before such enormous quantities of energy and material flow irrevocably into the wrong channels."

Housing in Canada

Mr. Thomas Adams, Town Planning Advisor to the Commission of Conservation, Canada, writing in the *American City* of the Canadian Government's proposal to lend \$25,000,000 at 5 per cent, for housing, points out that "One of the big difficulties which will confront the municipalities is the problem of securing suitable land at a price sufficiently low to permit of economic development." He also states that there are only four conditions attached to the Government's scheme:

1. Each province must prepare a general housing scheme, setting out the standards and conditions to be complied with in local housing schemes and submitting the whole to the Federal Government. When approved by the latter, the jurisdiction of local schemes rests with the provincial authorities.

2. The maximum amount to be loaned per dwelling must not exceed, for different sizes and types of dwellings, inclusive of land, etc., the respective sums of \$3,000, \$3,500, and \$4,500.

3. Loans may be granted for building houses and purchasing land only to provincial governments, municipalities, housing societies with limited dividends, and owners of lots for the purpose of erecting houses for their own occupancy.

4. Loans shall be made payable over a period of twenty or, in special cases, thirty years.

In general, the theory is that municipalities must assume responsibility for housing improvement, the Government to act as advisor and to advance money. This plan will undoubtedly work for a temporary improvement, but the results obtained by similar methods in other countries hold out no hope of a permanent amelioration. It seems strange that it is still considered that Government money at a low rate of interest can change a condition due to causes which have nothing to do with rates of interest.

H. Barnes, M. P., R. I. B. A., writing in explanation of the English Government's Housing Bill, in the *Architects' Journal*, says: "We are promised a new Land Acquisition

Act, but it is said to be delayed by dissensions, and, consequently, in that illogical fashion we so dearly love, legislation, the fundamental consideration of which is the acquisition of land, is proceeding without it."—B.

Some Details of the English Government's Plan

It is announced by the Local Government Board that the Government Housing Scheme will be administered by a Chief Commissioner with eight District Commissioners. A Manual is shortly to be issued, pointing out how Local Authorities may proceed to inaugurate a housing development. A proportion of the cost is borne by the Government and a proportion by the Local Authority, the Government's share being such as not to make the Local Authority's share exceed a sum equivalent to that obtained by levying a tax rate of a penny in the pound. The Government's contribution is in the nature of a subsidy, since it is now commonly recognized that good houses at low rental can no longer be built at a profit, if the rentals are brought within the means of workmen.

Under the terms of the bill every Local Authority is required to submit its scheme within three months of the passing of the act. If it fails to do so, or if the scheme submitted is considered inadequate or otherwise not suitable, the Government is empowered to proceed for that locality on its own initiative, and to levy the cost on the community. It is very evident that any satisfactory result will depend utterly upon coöperation between the Local Authorities and the Government.

Comment is freely expressed in England as to the inadequacy of the bill, and special criticism is directed at the absence of suitable provisions for community planning. The bill is said to deal with "house-building and nothing more."

It is reported that practically all the essential house-fittings are being standardized, including doors, windows, hardware, and general fittings; also that, where practicable, existing munitions works will be used in their production in order to provide as much employment for munition workers as possible. It is also proposed to erect a model village in London for the guidance of Local Authorities. The houses will be erected from the premium plans in the R. I. B. A. Housing Competition, already reported in these pages.

The English House vs. The American

In studying the "Cottage Designs Awarded Premiums in the Competitions Conducted by the Royal Institute of British Architects with the Concurrence of the Local Government Board," I am led to wonder what would happen if a group of our recently built houses were taken from one of our war-housing projects and set down in England without any changes. Would the houses rent, assuming that the rents charged would be such that others than the upper middle classes could afford to pay the price, and that schools and a reasonable number of communal features had been added? Would the British workman take kindly to the plans of the houses?

This interesting question arose in my mind as I studied

the plans presented in these groups of premiated designs, for, from our experience, we know full well that plans such as are here illustrated would not "go" in the United States, largely because of the location of the bath, water-closet, and scullery.

From the standpoint of function there is really no material difference between the British and the American home of this class (five and six rooms). The difference really resides in the *ideas* which are associated with function in the two cases. The water-closet in one case, for example, is near the rear entrance, with the bath on the second floor; in another, the bath and water-closet are both on the first floor, accessible through the scullery. In some of the plans, the bath is in the scullery; and sometimes a part of the bath is under the drain-board of the scullery sink. Evidently the bath is still a migratory element, notwithstanding its being called a "fixed bath" in the programme. And one finds no closets on the second floor. I acknowledge that I am involved in details (like a client); but details are important in houses, particularly where the design is to be used as a standard.

Viewing many of the details of plan arrangement as I do, I am led to the question: Has the British architect considered at all seriously the functional merits of what may be said to be a typical American house-plan of this type and class? Has he, for example, given as thoughtful a study to this phase of the housing problem as expressed in America as we in America have given to the contribution made by the British architect to the general subject of community planning—the arrangement of streets and the grouping of houses? I wonder! For I feel that, notwithstanding the difference in manners and customs, we have in our house-plans something of value which may be made use of in Great Britain.

So much for the things with which I find fault. It gives one satisfaction to observe a marked tendency to break away from the rather petty quality which characterized this effort a few years ago—there is no architectural junk in the designs given the higher ratings. In this respect these designs are an expression of progress—they represent a mean toward which we should strive, for in the past it has seemed impossible for us to approach this field which lies between the monotonous row-type house and the complex individual dwelling, the object in the design of which has seemed to be to make each new house erected quite unlike its neighbor.

It is interesting to note that the competition called for five- and six-room houses only. Does this really mean that the five-room house has come to represent a minimum standard with respect to accommodations? Let us hope so. And of even greater interest is that sentence in the programme which reads "The plans may be prepared without regard to any existing by-laws or local act provisions, the object being to show the best types possible if existing restrictions are removed." Evidently there are antiquated by-laws in England also.

But all this relates to detail still. Shall they be built?—that's the truly vital matter—or will England, with that programme of action so finely conceived, slump back into the old pre-war technique (which was a generation ahead of us with respect to action) of merely dealing with sections of this problem? Better housing may come through direct action having this acknowledged end in view—and then again it may not. It may be that bad housing—a sordid rotten environment—may be the cause of action of quite a different nature. It may be that the direct approach to the housing problem is by the way of a new industrial system—who knows? FREDERICK L. ACKERMAN.

The Home-Building Law of North Dakota

February 21, 1919, a law was put into effect in North Dakota, establishing the Home Building Association. The purpose of the Act is to supply homes for its citizens through the agency of a profit-making state-owned business. The conception is simple. A citizen deposits 20 per cent of the value of the home, whereupon the state proceeds to purchase or build "such home," paying 80 per cent of the bill.

The state has evidently some misgivings upon the subject of an 80 per cent first mortgage, and it therefore arranges that while it will take all the profits, the losses will be handed back to the citizens. The fundamental error lies in the assumption that the state is a profit-making organization and, in the endeavor to support and bolster up this entirely false viewpoint, many strange expedients have been adopted. The Home Building Association is controlled by the Industrial Commission, a body of three, consisting of the Governor, the Attorney General, and the Commissioner of Agriculture and Labor, who are vested in the power "to fix the buying price of things bought and the selling price of things sold."

It is plain that the author of this provision has so

little faith in its efficacy that there is written into the body of the law a further and most elaborate attempt to guarantee the state against loss. It is as follows: While "any person" may open a home-buying account with the Government, no application for state aid will be considered made by a member of a Home Buyers' League, an underlying corporation, as it were, consisting of ten or more depositors. Election to one of these Neighborhood Leagues depends on the written unanimous consent of its members. Any member, acting as an individual, initiates and completes his business with the state in the manner already described, and, in the event of loss to the state, each member of the League is jointly and severally liable to the extent of 15 per cent of the price to which his home was sold to him. The guarantee can be of value only after a sufficiently large equity has been established in homes belonging to other League members, and before that happens the state will have nothing to protect its interest but its supposed power to fix the buying and selling price. Here surely is an infant industry in need of tender care. The guarantors are invited to organize, knowing that they may be called upon to meet losses in

THE HOME-BUILDING LAW OF NORTH DAKOTA

transactions over which they have no control and of which they may have had no knowledge. It is hardly possible that success can attend such an arrangement.

There are other defects in the bill of a less grave nature, as instanced in the clause providing for the standardization of "houses, barns, and other buildings." It is curious how the fetish of standardization appeals to the uninformed. It gives an impression of safety and therefore appeals to the conservative instinct. It is felt that once structural perfection is attained, there will be comparatively clear sailing. It is a simple faith, but it will not move mountains when those mountains are such things as excessive land costs and overcrowding of dwelling areas.

Mingled with much that is bad there is also some good. The state is given the power to buy or commandeer land

for building purposes, frankly recognizing thereby the obvious fact that unless a community retains effective control over its own territory, its growth cannot be otherwise than dwarfed and disturbed. Land wealth may be conserved to the community in several ways and the method preferred by the South Dakota law may not be the best one, but once the principle is recognized, its details may be modified by the necessities of special environment.

When the law is rewritten, as rewritten it must be if it is to function, it is to be hoped that the cost and use of the land may be treated as questions of major importance and the principle be clearly established that the state should not attempt to realize a profit in the enterprise of supplying homes for its citizens.

JOHN IRWIN BRIGHT.

Correspondence

Miss King's Articles on Spanish Architecture

TO THE EDITOR OF THE JOURNAL:

You do not, so far as I know, invite remarks from readers on the contents of this valued publication. Perhaps it is venturesome for a "lay" reader, so to speak, even to offer anything in the shape of a tribute; but my appreciation of certain things you have given us is so lively that it will not be denied. It insists on being deposited at the feet of that artist in words who gives us now and then a glimpse of "Early Spanish Architecture."

It is so unusual to find a writer who knows how to make pictures with words—I do not mean how to call up mental pictures by words, I mean how to literally create pictures with words on the printed page. This is a great art. Most writers have it not, or do not realize its possibilities, or perhaps its existence. Not so with this uncommon contributor. She adds to her pictorial gift a remarkable knowledge of her subject, clearly the result of very devoted research. But that feature of her writing, quite marvelous to the superficial lay reader, is not what compels this special "doffing of the hat."

Looking on a page of it is like looking on a charming

piece of mosaic, bits of choice colors fitted together cleverly, some of them brought from afar and lending a certain Old-World and other-day distinction to the product. Or it might suggest a grouping of flowers, subtly chosen and delicately assembled with an exquisite sense of color-combination and balance. Also the harmonic quality of the composition is not slighted, as one may realize best in reading it aloud.

Naturally, the poetic feeling that goes with these other gifts of the muses is not wanting. You must go far to find a more felicitous ending for a delightful chapter than the closing paragraph of Miss King's article in your March Journal.

For a reader who is acutely susceptible to the handling of words, the discovery of so individual a writer with this peculiar skill has been "a find." Whether her artistry of language is instinctive or sought for, it does not betray itself—nor does that matter. Such a great gift it is, and so much to be desired! When you add to it what seems to me a wealth of knowledge in that fascinating branch of your chosen art, you have a contributor on whom you should indeed be congratulated. And the beautiful photographs which illustrate her text are its worthy complement.

—A. L. M. K.

News Notes

"Architecture and Government"

Mr. Harry Barnes, a Fellow of the R. I. B. A., and a Member of Parliament, writes in the *Architects' Journal* (London) of architecture and government as he sits "by a window of the Library in the House of Commons." Neither bemoaning the past nor bewailing the present, he looks forward and asks:

"Are there resources as unlimited and as accessible as those that built pyramid and pylon, castle and church? Some service alike to God and man that shall blend the

spirit that reared the altar with the spirit that for the fortunate few surrounded life with grace and beauty? If there is, there is the spirit of a great architecture that shall not less worthily burden the earth than any monuments the past has piled. I believe that in the widening conception of human relationship, the possibilities of human coöperation, the resources of a common life, there lies a dynamic power that shall move us to greater architecture than the past has ever known.

"I have a vision of a state in which private life shall grow more simple and public life more splendid, where the

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range of architecture shall not be determined by the depth of private purses but by the infinite variety and diversity of public needs.

"In that state architecture will be both simple and splendid, simple as it provides in the village for the homely needs and activity of the smallest groups; splendid where in great centers of population the complex activities of mankind find the freest scope.

"Is it too much to hope that some day we may have a great architecture of happiness?"

War Memorials

The Soldiers and Sailors Memorial Committee of St. Joseph, Mo., reporting upon the question of a memorial undertaking for their city, offers its opinion that a cenotaph or monument was too narrow a conception of the project, and sums up its conclusions as follows:

"A number of suggestions for commemorative projects, mostly utilitarian, in one or two instances, indeed, commercial in character, have been offered by the public; but this Committee has felt that the many and deep sentiments involved could only be happily met by carrying out, in addition to providing a memorial in its pure and limited sense, some great commemorative work, itself suffused with the same spirit that characterized our purpose in the war. If that was 'to make the world a better place to live in,' this should be to make St. Joseph a better place to live in, a place better, not alone in the direct material sense, but better in that a new environment, if thus provided, would contribute sensibly to a higher and broader type of community life."

What Makes Men Work Best?

In a recent number of *L'Illustration*, M. Henri Bordeaux recounts some fragments of a conversation that took place at a luncheon given by M. Gabriel Hanotaux in honor of Theodore Roosevelt when he was passing through France on his way to attend the marriage of his son at Madrid in 1914. The conversation to which he refers turned, at one moment, on the subject of the most powerful motives that actuate men.

"Love of life," said one.

"Ah, yes," said Roosevelt, "but also glory, interest, and duty. The important thing is to keep a true perspective of human affairs and not give first place to that which should be second, and vice versa. Of first importance, I place the family."

M. Hanotaux here remarked that, for many men, one of the principal forces of action is the desire, almost instinctive, for work well done; of "fine work," as the popular expression goes. "This desire," said he, "is often stronger than the love of glory. One does not think of glory, but of doing well that which one has to do. When I was Minister, no other thought supported me so much."

"My experience is the same," observed General Mangin. "During my colonial expeditions I never thought of spurs to be won, but of doing my work in the best way possible."

"That," said M. Boutroux, "is called conscience—at least, professional conscience."

A New Association for Architectural Practice

The following announcement has been made:

The growth in importance and complexity of modern building problems has suggested the advantage of a new type of professional architectural service. For the efficient solution of important problems it would seem highly desirable to secure the coöperation of a group of architects of varying qualifications and experiences rather than to depend on the necessarily limited knowledge of an individual.

With this idea in mind, a number of professional men of wide experience have agreed to combine their efforts in the practice of architecture, each contributing of his special knowledge in the design and supervision of such work as in its nature would justify the group effort. They are convinced that this can be done and yet preserve for the client the personal interest and guidance of the one member of the group specially entrusted with the direction of the work. In the same way, the proposed plan will in no way ignore the fact that in certain cases, for instance in residential work, it will still be desirable and advantageous to the client to have his work conducted along the old lines of individual service.

The professional men who are thus offering their combined skill and experience are these: Robert D. Kohn, F.A.I.A.; Charles Butler, F.A.I.A.; and Frank H. Holden, Architect.

Whenever it will be to the advantage of the desired result, the individual members of the group will be aided by and in turn will coöperate with: Eugene W. Stern, Member American Society of Civil Engineers; Frank E. Vitolo, Architect; and Clarence S. Stein, Architect.

Obituary

J. Cleveland Cady

Elected to the Institute in 1864; to Fellowship in 1865
Died at New York City, April 17, 1919

Dr. Cady (he received the honorary degree of LL.D. from Trinity College in 1906) was born at Providence, Rhode Island, and was graduated from Trinity College in the class of 1860. He had practised architecture in New York City since 1870, his associate being William S. Gregory.

He was the designer of many notable buildings: the Metropolitan Opera House, the American Museum of Natural History, the Presbyterian Hospital, the Skin and Cancer Hospital, Bellevue Medical School, and the Hudson Street Hospital. For Yale University he designed fifteen buildings, including a number of dormitories, as well as Dwight Hall and the Chittenden Library. He had also executed work at Williams, Wesleyan, and Trinity; to the Library of the latter college he presented his architectural library.

Dr. Cady was a devoted Presbyterian, and he had held the position of Superintendent of the Sunday-school of the Church of the Covenant in New York City for fifty-three years. He was a Governor of the Presbyterian Hospital, a Trustee of Berea College, Vice-President of the New York City Mission, and President of the National Federation of Churches.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS & SPECIFICATIONS, FIRE-PREVENTION, MATERIALS & METHODS, STRUCTURAL SERVICE

The Lighting of Buildings*

Foreword

This is not a "how to" article. It is intended to point out hereafter what considerations the arrangements for lighting a building, both by natural and artificial light, entail, and their bearing on the general problem of making buildings useful, pleasant places in which to live or work, and economical in operation.

The equipment of a modern building, adapted for the intensive indoor life of these times, is so complicated that its design presents what is frequently a difficult engineering problem, involving so many functions that a number of highly technical professions and trades have grown up around them. Indeed, many of these branches of construction have become so important that on them largely depends the successful and economical operation of well-nigh every building.

Building Comfort

Life in such buildings hinges about their mechanical and electrical equipment, without which they would be quite impossible. Thus, in large, densely populated structures, the traffic problem becomes a subject for calculation quite as much as planning. Elevator equipments can no longer be proportioned by purely empirical rules. They should be designed directly in relation to the number of people that must be handled in a given time. Otherwise an insufficient or unnecessarily expensive installation may result. An insufficient elevator equipment throttles the traffic and reduces the usefulness of the building.

In large buildings, the design of the heating and sanitary equipment become problems of such magnitude that errors may be very costly. A very slight lowering in efficiency may involve considerable annual operating costs.

But none of these equipments involve the personal comfort of the building occupants quite so directly as illumination. We may growl a bit if delayed in getting to our offices or work, and wear coats if chilly, but these things are of passing moment when not totally impossible. On the other hand, if we cannot see to work, if our offices are dark or badly lighted, the effects are much more marked

*This article is the first draft of a lecture prepared by the "Committee on Lectures to Architectural Students" of the Illuminating Engineering Society, 29 West 39th Street, New York City. When completed it can be obtained from the Society, together with lantern slides for delivery in any school of architecture. The Illuminating Engineering Society has also prepared lectures on the "Lighting of Work Shops," "The Lighting of Offices," "The Lighting of Residences," etc., any or all of which can be obtained for the same purpose. The object of the Society in preparing these lectures is to educate the public in the proper use of light. The various codes of lighting mentioned in the article are published by the Society and may be obtained at a nominal charge.

because continuous, and our efficiency, often unconsciously, is markedly impaired.

We cannot leave this question of lowered efficiency due to poor lighting without drawing attention to the reports of several conclusive tests (W. A. Durgin, "Productive Intensities," *Trans. I.E.S.*, Vol. XIII, No. 8), showing that in industrial plants increases in production as high as 50 per cent resulted from substituting well-designed lighting equipments for existing equipments of poor design. Further tests of the efficiency of the eye used in such ways as would be entailed in general office work (Ferree and Rand, "Tests on the Efficiency of the Eye," *Trans. I.E.S.*, Vol. VIII, p. 40; Vol. X, p. 407), have shown very marked differences in seemingly insignificant variations in the character of the illumination—variations that are no greater than may be found every day between one modern building and another—yet such differences in eye efficiency produce a marked and measurable falling off in the amount of work accomplished in a given time. It has also been shown that such lowering in efficiency, if maintained over long periods, results in a permanent reduction of the whole human organism's ability to respond to the will. It would be well for those whose interest is sufficiently alive to read in this connection a little pamphlet published by the Illuminating Engineering Society called "Light—Its Use and Misuse."

The Illuminating Engineer

Due to the comparatively recent development of high-efficiency lamps, both gas and electric, the latest addition to the array of talent involved in the successful design of a modern building is the illuminating engineer. The illuminating engineer is young and, filled with the enthusiasm of youth, he has sought to "put over" his ideas without much consideration of the architect's bigger problem, which is indeed, a complex manifold.

The illuminating engineer has had little patience with the architects' and the lighting fixture makers' adherence to standards and devices based upon conceptions tracing back to the "dark" ages. He knows and can prove that his fundamental principles are correct, but has lacked the ability to state his case clearly and convincingly. He has rarely been able to show the architect that his results are esthetically possible. Steeped in a new application of science, he has failed to see that his true aim is not to force the use of devices conceived in the laboratory, but to put into practice the principles of good lighting, whether these principles be applied to the design of a purely utilitarian device or a most decorative chandelier. As we shall see

later, these principles are quite simple and, with a little common sense and good taste, can be applied to any interior however elementary or rich in treatment.

The one thing that the illuminating engineer is justified in *demanding* of the architect and the fixture manufacturer is that both shall realize that modern illuminants, if not properly used, possess immense power to do bodily harm through eye-strain, and that lighting devices, whether simple or decorative, must be designed with this in mind. It is not possible to use the modern incandescent lamp safely without ample eye-protection.

The architect and fixture-maker cannot logically claim that the modern illuminant, which has come to stay, cannot be incorporated in their designs without destroying their value. It is their problem to conceive adaptable designs, as it was the problem of their artistic forefathers to produce designs built about the candle and kerosene flame. The difficulties involved should only make the problem the more interesting.

The great masters of art frequently, if not always, have been scientific students of their media. Some of them have shone as scientists. Indeed, the scientific method had its roots in the attitude of mind that also brought forth the arts of Hellene. To achieve perfection, the artist must thoroughly understand the character and structure of his vehicle of expression. But art, like science, fails in its appeal unless it is practical. Pure science, like pure art that does not lend itself to everyday use, and that does not add something to the ease and comfort of living, never achieves its final purpose.

We are accustomed to saying "This is a practical age." But is it relatively more practical than any other age? Was not Rheims Cathedral, looked at from the viewpoint of its time, as eminently practical a structure as a modern reinforced concrete factory building? Perhaps more so—because the modern architect has quite generally failed to base his practice on living, practical things.

The difficulty is that modern graphic art has become a sort of Taotism—a cult trained to look backward to ancestral conditions and not forward to the ultimate culmination of modern life.

This is, at least, the viewpoint of the illuminating engineer who finds himself in sympathy with the architect's problem. His ambition is to aid in the beautifying of buildings through application of the practical possibilities of modern lighting.

Seeing

Since most arguments begin because of the lack of a common definition, we shall start by determining what we mean by seeing. When we see anything, we are conscious of a pattern of visual sensations. Since the only two visual sensations are those of brightness and color, we shall say that what we see is a pattern of colors varying in brightness. And to clear up any misunderstanding, let us say that black, white, and all intermediate tones of gray are colors. In this sense the blackness of a totally dark room is a color of zero brightness, for at times it certainly is a very vivid sensation.

A blind man has no visual sensation whatever—not even blackness.

Color Sensations

These sensations are aroused by certain physiological processes stimulated in the constituents of the eye retina when light falls upon it. These processes have been divided into that arousing the sensation of brightness and three color sensations corresponding in their purity to the sensations aroused by three definite hues of red, green, and blue. All visual sensations of color appear to result from the varying degree to which these three processes are stimulated. The red and green processes stimulated alone and to equal degree produce the sensation of yellow. "Yellow" light stimulates both these processes. The three processes acting together produce the sensation of white. All colors tend to go white with increasing brightness. The various forms of color blindness result from a failure of one or more of these processes to function.

The Eye Function

The retina is protected and the amount of light admitted to the eye controlled by muscular action on the iris, causing it to increase its aperture with decreasing light and decrease its aperture with increasing light. This control is stimulated by the intensity to which the retina is lighted. If one part of the retina is brightly lighted and another part dark, both parts seek to control the iris in opposite ways, giving rise to one form of eye-strain. To prevent such strain, the contrast between the brightness of different parts of the field of vision must be kept within proper limits.

If the retina is constantly lighted to a fixed intensity, the iris muscles become tense and another form of strain results. To avoid this, the field of vision must vary in brightness from time to time so as to keep the iris muscles active.

The iris processes above mentioned are aroused by radiant energy in the visible range (generally called "light") falling upon it through the iris aperture. The light received from various parts of the field of vision is focussed on the retina by the lens so as to produce on the retina a pattern in intensity and color corresponding to the amount and color of the light radiated or reflected from the various parts of the object seen.

Light the Primary Medium

The first object of this explanation is to bring out the fact that the primary medium in which the architect works is light. He produces patterns in brightness and color by means of light reflected from his construction and their decorations. These patterns, translated into visual sensations, are what we see. It follows, then, that unless the object receives just the right character distribution and color of light, it cannot produce the right pattern, and the message it conveys is more or less distorted. There is no such thing as beauty in an unheard symphony or in an unseen painting.

A design in perspective and color may indicate just the idea the architect has in mind. But when it is built and lighted by the means at hand, will it look the same? Will the delicate tints maintain their hue? Or will they lose their character with a change in the color of the light? There is little blue in the light emitted by the highest efficiency modern illuminant.

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It is easy to draw a mold of graceful contour, but when it is in place will the pattern of high lights and shades produce the same visual impression? Then, we do not see its contour. And if it be drawn in relief with shadows à la McGoodwin, will the same shadows be produced when it receives light only from a window or a low-hanging chandelier? Can this chandelier, pretty in itself, light the room so that it will look as the architect conceived it in his mind's eye?

Thus does light and illumination control the final result. And, lest it be thought we are drawing distinctions rather finely, let us remember that it is just such refinements that cause us to admire so greatly the works of the masters. Yet we copy their cathedrals, sublime in their dim distances and deep shadows, and fill them with glaring brightness.

The second object of our description of the function of the eye is to show that the solution of the general problem of illumination depends upon knowing what we see, how we see, and why we see. The answers to the "what," "how," "why" must be given in terms of psychology, physiology, and physics respectively. The subjects are of relative importance in establishing the principles of good lighting almost in the order given. Any proper method of lighting, artistic or utilitarian, must fill the conditions so set.

The Psychology of Lighting

Outside of the physical structure of the brain there is probably no other organ, except the eye, so capable of wide adjustments through the influence of use, environment, and training. In a comparatively short time the eye can be trained to be exceedingly sensitive to brightness or color differences. Development of one sense usually decreases the sensitiveness of the others. Sometimes this super-sensitiveness is the result, not of training, but of environment. Habits of seeing are thus quickly developed. A man accustomed to living immersed in one kind of lighting feels decidedly uncomfortable in another, even if, physiologically, the change is a wise one.

Prejudice

Factory hands and clerical forces accustomed to working with individual localized lighting almost invariably object if the lighting be changed to general illumination of relatively high intensity, which change, experience and test have shown, decidedly increases eye-comfort as well as production. (See "Code of Factory Lighting" published by the Illuminating Engineering Society. This Code has been incorporated in the factory laws of many states.) The phenomenon is purely psychological and is so important that at least one firm of engineers makes it a practice to lecture to the hands or clerks on the subject of lighting and demonstrate the advantages of the proposed change.

A case comes to mind of relighting the rooms occupied by the clerical forces of a large insurance company. The localized lights were removed and generalized lighting installed. Violent objections at once resulted. Tests were then made in the clerks' presence. Their interest was aroused and several changes made, the last change being to reinstall the objectionable generalized system without the clerks' knowledge. All hands at once agreed that the improvement was marked. From that time no further

difficulties were encountered, and, so far as is known, the occupants are not aware that the illumination in use is identical with the system which projected the trouble.

Numerous similar cases might be cited. One, for instance, of two officers in a bank, both occupying similar desks, in similar locations, similarly lighted. Both objected to the lighting for diametrically opposite reasons.

One office manager declares that his clerks complain of the lighting and want another system installed, while in another similar office the clerks object to the lighting wanted in the first case and want the lighting to which objection is raised by the other office. Tests show that both systems are practically equivalent as to eye-comfort and efficiency.

A commonly satisfactory method is to install the proper lighting equipment in one smaller office, where the conditions may be controlled without objection, and leave the system to create its own demand, which, experience shows, is almost certain to arise. Of course, this method is only practical where existing equipment is to be modified.

The Effect of Eye-Strain

Another matter that should be touched upon here is the very important one of bodily comfort. The optic nerve centers are very closely associated in the brain with those of the stomach. Trouble in one region almost invariably engenders trouble in the other. Cases are on record where stomach disorders have been brought on by continued eye-strain, and nothing so quickly upsets the whole organism. This has become so common a matter that doctors frequently diagnose the cause of stomach trouble as due to defective lighting. Children are particularly sensitive in this way, so that the natural and artificial lighting of schools and other places where children congregate should receive particular attention. (See "Code of School Lighting" published by the Illuminating Engineering Society.)

Light thus has a very peculiar psychological effect, particularly as to color and distribution. Color in light may be used to arouse emotional moods quite as readily as music. All modern stage-lighting is founded on this fact. Attempts have even been made to combine color in light with music so as to sharpen the emotion. Such attempts, while founded on a correct principle, have failed because color has generally been treated as an additional voice in the orchestra. (See "Mobile Color and Stage Lighting" by Bassett Jones, *Electrical World*, Vol. 66, No. 5, July 31, 1915.) Witness as an example of the effect of color and quality in light the appeal made by the sort of lighting done in certain restaurants. Some are cool and quieting, others are exciting, and still others almost sensual. A gathering of otherwise normal people can be profoundly stirred by a properly executed series of changes in the color of the lighting.

So, in the lighting of offices and other work-places, the result may be either restful or restless, depending entirely on how it is accomplished—and this entirely apart from any question of eye-comfort.

The Normal and the Abnormal

The quality and color of well-distributed daylight is normal. Any departure from this standard is abnormal—

usually depressing if toward blue and stimulating if toward red. Remember that the light from the best modern incandescent illuminants is quite red compared to daylight, and this effect is sharpened by any red or buff component in the wall and ceiling treatment.

All such results as we have been discussing are, of course, modified by the intensity and distribution of the light and by the environment. A well-shaded, almost red, kerosene flame in an otherwise dimly lighted library may produce a sense of extreme comfort.

The subject is entirely too complicated to more than mention here, but at the same time it is one of the most important and the least understood in the whole art of illumination.

The problem of introducing new ideas in lighting, however correct they are known to be, is not easy. The difficulties are not amenable to calculation but must be overcome by educational methods. Habits must be corrected and new ones developed. Thus the first, and generally the most difficult, problems that face the illuminating engineer are psychological. He has to teach people to see correctly.

The Physiology of Lighting

Above, while discussing the function of the eye, we mentioned the one fundamental phenomenon that lies at the basis of all good lighting—*brightness* contrast. Dr. H. E. Ives has said ("The Measurement of Brightness and Its Significance," Trans. I.E.S., Vol. IX, No. 3) that *the art of good lighting is the art of the proper distribution of brightness*. This statement should be the slogan of every illuminating engineer and of all others who do lighting. It means that if the distribution of brightness over the pattern on the retina does not disturb its normal functioning, then, so far as the eye is concerned, the object seen is properly lighted. If eye-strain is the result of the brightness distribution, then no matter how beautiful the object may be, we tire of looking at it, and in so far its beauty is destroyed.

Brightness Contrasts

An illustration of what is meant by brightness contrast is that of a lighted candle in a dark room. The contrast of the bright candle flame against the black background is so great that the eye cannot protect itself and is blinded, resulting in serious eye-strain if too long maintained. On the other hand, the most powerful bare incandescent lamp in a white room is not immediately annoying, although eye-strain may eventually result from the excessive quantity of light received on the retina.

These are the extremes. The safe contrast is contained within a comparatively narrow range. Probably it should not exceed 100 to 1 if the eye efficiency is to be maintained at a reasonable level. (See Ferree and Rand, "Tests on the Efficiency of the Eye.")

A more practical illustration is that of a room finished in dark wood and lighted by wall-brackets and a chandelier, both bearing imitation candles capped by round-bulb frosted lamps. The contrast in this room was about 1,000 to 1 and was very trying. Since the eye was blinded, the design could not be seen, and so the architect had defeated

his own purpose. The windows did not improve matters because, with a bright sky visible, the contrast was still high—over 1,500 to 1, or fifteen times the safe limit.

A practical solution of the artificial lighting of this room would be to substitute softly toned plaster for several of the wood panels and mount in the bottom of these panels the same wall-brackets now used. Substitute standard clear lamps for the frosted lamps and mount in front of the lamps a batik shade with translucent colored ornament, if desired. Let the back of the shades be white so that they will reflect light to the plaster panel, which will diffuse it into the room. The brightness contrast, while high, would then be bearable. The chandelier would be unnecessary save as an ornament, and why not let it be frankly an ornament and not a lighting fixture?

In one of the most beautiful interiors in America, the artificial lighting, which, due to insufficient daylighting, is used at all times, is accomplished by very fine examples of the metal workers' art, studded with bare frosted lamps. The lamps, seen against the generally dark-toned ceiling and walls, so blind the eye of the beholder that the fixture bodies themselves become mere dark masses and the very fine ceiling above can hardly be discerned, much less can its detail or color be appreciated. It may be added as a fact, that the number and size of lamps on these fixtures were selected, not with any relation to the illumination, but solely because that number of bulbs of a certain diameter looked best on the drawing. That, when bought, the bulbs necessarily contained 40-watt filaments was never considered as material, although 5-watt lamps in that number would have generated enough light. Actually, the 5-watt lamps, being practically as bright as the 40-watt lamps, would not have reduced the brightness contrast, but the employees would not have been drowned in light. The result is, of course, that no more than about one-third of the lamps are ever lighted.

Endless similar cases can be cited *ad libitum*. In fact, it is rare to find an architectural interior where seemingly any attention has been given to the all-important question of brightness contrast, either in arrangements for daylighting or artificial lighting. Both cases are equally important, and particularly so to the architect, because, when excessive brightness contrast exists, the design cannot be seen.

An interesting deduction from the principle of brightness contrast is that dark-finished rooms must be dimly lighted while light-finished rooms may be brightly lighted. It follows that dark finishes should not be used in rooms where much light is required. An additional argument in favor of this rule, that will probably more directly appeal to the architect, is that the deeper color tones used in a dark-finished room will not stand even a moderately intense light. If intensely lighted they fade out and lose their richness. Light on any color is equivalent to mixing gray with the pigment.

Sky Brightness

The sky-dome, which is the source of daylight, at high noon has a luminosity that, when seen through a window from a fairly light-toned interior, will produce brightness contrasts exceeding 1,000 to 1, and more if the interior be dark in tone. Furthermore, the window is rarely out of

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the field of vision and generally throws its light horizontally into the room, so that none of the protecting features of the eye, which is arranged for maximum brightness overhead, can function properly. (See Luckiesh, "A Study of Natural and Artificial Light Distribution in Interiors," Trans. I.E.S., Vol. VII, No. 7, p. 388.) We are, however, in the habit of working under these conditions and do not realize our loss in efficiency until such conditions are corrected—as, for instance, in a studio with an overhead north skylight properly shaded, or in a room with windows arranged to transfer the light to the ceiling. The effect of the unscreened window is obvious if we try to discern the features of a man sitting with his back to it.

Daylight in the Room

As a general thing, the daylighting of a room is at such a high level that the excessive amount of light causes the iris aperture to become very small. The surfaces or window areas are large, and if a wide sky-zone is visible from the window, the incoming light from the sky is well diffused. Such conditions cannot be easily achieved by artificial light. The areas emitting the light are small and generally at high intensity. The total amount of light is quite small, so that the effect of light quantity is to leave the iris open. Under such conditions, the retina becomes much more subject to the effect of sudden excess of light. That is to say, the iris being open, should an excessively bright object come within the field of vision, the iris has not time to close before some eye-strain has been produced. The eye-strain produced in this way by excessive light quantity is quite different from the eye-strain produced by excessive brightness contrast against which the eye has little or no protection.

It thus comes about that the level of intensities required in artificial lighting must be considerably lower than those generally met with in daylighting. The contrast between the conditions of natural and artificial lighting are most evident at the time we change over from one to the other during continuous work. The result of this change is as continuous as the work done under it, and almost always results in a marked falling off in efficiency.

It is claimed, however, that if the amount of daylight is reduced to the amount satisfactory in artificial lighting, and the brightness contrasts reduced by proper window shading, the efficiency of the eye is increased. (See Woodruff, "Medical Ethnology," Chapters XIV and XV.) Recent experiments in scientific window shading seem to substantiate this claim. Woodruff states that we are better off with less daylight.

It is probable that a high level of eye efficiency can be reached both by systems of natural and artificial lighting which generally throw most of the light to the ceiling. The light is then reflected from the ceiling and diffused downward, thus bringing the brightest surface overhead. If, in addition, the color of the light is in both cases approximately the same, and if there is a slight direct component added to produce normal shadows, then, with advantage, in both cases, the amount of light may be the same. If, then, the ceiling be white, the least possible amount of light will be lost by absorption, and if, in addition, the walls be treated in some quiet cool tone, the result will nearly approach natural conditions.

The Physics of Lighting

It is hardly necessary in these days of universal knowledge to explain that light, before it reaches the retina, is radiant energy—precisely the same as the radiant heat felt from an open fire and a steam radiator; the same as the radiant energy used in radio communication and in X-rays. The only difference between any of these forms is one of wave-length.

Light Rays

The energy radiated from an incandescent lamp is mostly radiant heat, known as the *infra-red rays*. A very little of the energy radiated lies in the wave-lengths that have the power of exciting the retina and so give rise to visual sensations known as the *visible rays*. Still less lies in the range whose wave-length is too short to be luminous and are known as *ultra-violet rays*. The wave-lengths arousing visual sensations lie between those arousing the sensation of red, the longest, to those arousing the sensation of violet, the shortest. This range is known as the *spectrum*. Equal amounts of radiant energy in the different visible wave-lengths do not arouse the same degree of brightness sensation. The maximum brightness sensation will be aroused by this energy in the yellow-green part of the spectrum, and here it is several hundred times as effective as it would be near the red end or the blue end.

We can therefore distinguish detail with a minimum of light if this light is yellowish green. The color sensation produced would be very similar to that aroused by the light from the Mercury Arc (Cooper-Hewitt Lamp), but any surface having a different color would appear black when illuminated by this light. This is because every pigment gets its color by reflecting or transmitting light of some particular dominant wave-length to the eye, and absorbs the remaining wave-lengths. If, therefore, we mix together a red, a yellow, and a blue pigment, the red absorbs nearly all of the blue and most of the green and yellow. The blue absorbs nearly all of the red and the remainder of the green and yellow, and the yellow absorbs the remainder of the blue and red. All the light is absorbed and none reflected, so the mixture appears black.

This process is quite the reverse to the mixture of different colored lights, for then every step is toward white light, while, with pigments, every step is toward a black pigment. The primary light hues, the mixture of which produces white, are red, green, and blue, corresponding to the three retinal color processes. Red, green, and blue are therefore the true primaries and not the so-called red, yellow, and blue pigment primaries, because it is the color of the light by which the pigments are seen that determines their apparent color. Any shifting in the color of the light causes a corresponding shifting in color and change in brightness of the pigment. Thus blues, that are prominent by daylight, become dull and purplish by ordinary artificial light. (See "Text-Book of Color," Rood, and "Color in Lighting," Luckiesh.) In this connection it is easy to realize how important is color in the lighting of picture galleries.

In order that what appears hereafter may not seem Greek to the uninitiated reader, we shall pause here to define certain terms used in illuminating engineering. It will also save long-winded explanations later.

Light Measurement

The visible portion of the energy radiated by any illuminant is rated in terms of the brightness sensation it will produce on reflection from a white matt surface having 100 per cent reflection factor. It is measured by comparing the brightness sensation so produced with the brightness sensation produced on a similar surface illuminated by a standard lamp. Devices for making this measurement are called photometers. Actually they measure brightness sensation, and are therefore psychological rather than physical instruments.

Light Units

The standard lamp used in the photometer is compared with a standard source of light known as the "candle." The intensity of brightness sensation produced by this "candle" on a surface, every part of which is at one foot distance from it, is called the "foot-candle" and the amount of visible light at this intensity received on a surface one square foot in area is called a "lumen." The product of the average foot-candles, or average intensity of illumination over a given area, times the area in square feet, is the amount of luminous flux or the number of lumens received on that surface.

The actual brightness of any luminous object, such as a lighted surface or a light-source, is measured by comparing directly the brightness sensation produced by the surface or source with that produced directly by the standard lamp. That is to say, the luminous surfaces of the two light-sources are compared without the intermediary illuminated surface used in making foot-candle measurements.

It is obvious that as the light radiates away from the source it becomes spread out over greater and greater areas in space and thus becomes lower in intensity. In other words, the candle-foot measurements will decrease with increasing distance. But, save for interference by intervening gas or suspended particles of matter, the brightness of the source remains constant at any distance. Brightness is usually rated in candles per square inch. That is, in terms of the intensity of illumination that would be produced on a surface one foot distant if the source were one square inch in area and of a brightness all over equal to the actual source.

We thus have four principal terms to remember:

1. *The Candle*—arbitrary unit light-source producing arbitrary unit brightness sensation on a surface at unit distance.
2. *The Foot-Candle*—Intensity of illumination produced at unit distance from a candle.
3. *The Lumen*—amount of visible light flux received on a surface of unit area illuminated to an intensity of one candle-foot.
4. *Candles Per Square Inch*—brightness of a source of light in terms of the intensity of illuminations produced by an equally bright source one square inch in area.

We are now, perhaps, prepared to address ourselves briefly to some of the more technical problems of illuminating engineering.

Light Computation

First, we shall outline the method of computing the amount of light necessary for the proper lighting of any interior. We shall do this because only in this way can the application of the principles of good lighting be developed, and the important factors controlling the success of the installation made evident. We shall be as brief as possible and give only an outline of the method, for it is not our purpose to write a handbook but to bring about a better understanding of the problem.

Let us assume that a certain amount of visible light has been let loose, so to speak, in a room. What happens to it? After it leaves the fixture it strikes on various surfaces where some is absorbed, or escapes, as through a window, and some is reflected. This reflected light again strikes on other surfaces and is again partly absorbed and partly reflected. These multiple partial reflections and absorptions keep up until all the light is absorbed. Due to the enormous speed at which light travels, the whole process occupies but a very short interval of time. If all the surfaces of the room reflected all the light that fell upon them, the light in the room would never decrease but would be increased continually by additional light emitted by the lamp or fixture. Therefore, in order to maintain a given quantity of light in any room, the fixtures or lamps need only emit in any given time the amount of light that in the same time will be absorbed. In other words, the number of *lumens* lost is the number that must be generated. If, then, we know how the light will be distributed in the room, or if we know the amount of light in lumens received on all surfaces due to all multiple reflections, then, multiplying these quantities by the absorption factors of the surfaces will give us the amount of light that must be generated.

But the total light received on any surface may be expressed in terms of *foot-candles* and may be measured or calculated as the case may be. So, if we multiply the average foot-candles over any surface by the area of the surface, we get the "*lumens*" received. Multiplying the lumens received by the average absorption factor of the surface gives us the lumens lost.

This may be made clearer by an example which should be followed, as from it some most important deductions will be made. Assume a room 20 x 20 feet in plan, 10 feet headroom, and containing four windows 3 x 6 feet. Assume that the desirable system of lighting will be such that the ceiling is 16 times brighter than the floor and 3 times brighter than the walls. The ceiling is finished white and shows a reflection factor of .70. That is, 70 per cent of the light received is reflected and 30 per cent absorbed. The average reflection factor of the walls is .50, of the floor .20, and of the windows .15. The desired illumination on the floor is 6 foot-candles. Then on the floor, which has an area of 400 square feet, $6 \times 400 = 2,400$ lumens will be received and 380 lumens reflected. The reflected lumens amount to .95 lumens per square foot, which is equivalent to a brightness of .0066 candles per square inch. The ceiling is to be 20 times as bright. Hence, the reflected lumens must be 14 per square foot. This is 70 per cent of the incident lumens. The incident lumens are therefore 20 per square foot. The lumens absorbed on the ceiling

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are 2,400. Similarly, the lumens absorbed and lost by the walls and windows are approximately 3,900. The approximate total lumens lost are 8,300.

There are, let us say, four ceiling outlets, and the fixtures to be used show an over-all efficiency of 80 per cent. Therefore, the total lumens to be generated by the lamps are 10,400, or 2,600 lumens per outlet. Referring to the lamp manufacturers' handbook, we find that a 200-watt lamp will more than fill the requirements. The next smaller size will not quite do the work if allowance is made for dirt accumulations. The total power consumption runs 2 *watts per square foot of floor area*. The percentage of the total lumens generated received on the floor is called the *Utilization*. In this case, it is .247 or nearly 25 per cent.

In the case assumed, the reflection factor of the floor is low—about that of brown cork tile or darker shades in linoleum. Actually the floor will be partly covered by desks, generally lighter than the floor in color. On these desks there will be white papers. All such changes will increase the reflection factor of the floor to a point where the increased multiple reflections will materially increase the total light in the room, and hence the illumination on the desk-tops, which, by the way, are 30 inches nearer the ceiling than the floor. It will then be found that four 150-watt lamps will suffice. The *watts per square foot* are then 1.5, which is about normal for this kind of lighting.

For additional data on watts per square foot required under various conditions, see Edison Lamp Works of the General Electric Co., pp. xiv-xix, **Industrial Section**.

Lighting Fixtures

Now as to the fixtures. The type required to produce the brightness distribution established must be either *indirect* or *semi-indirect*. The first type throws all light initially to the ceiling. The second type throws most of the light initially to the ceiling and will consist of a more or less dense glass basin hung below the lamp. This basin also serves to hide the lamp from view, which is important, since the brightness of the lamp filament is enormous. In order that the fixture may reach the efficiency assumed, the glass basin must be wide open, a little flatter than a hemisphere in section, and not shaped in at the top, or its full aperture in other ways restricted. This type of fixture, rather than the indirect type, will be used, as the luminous quality of the basin improves its appearance.

If the lamp filament is a little lower than the top edge of the basin, somewhat more than 50 per cent of the light-flux generated will be received initially on the basin. The mean spherical candles or mean intensity at 1 foot distance of the light emitted by the 150-watt lamp is 163. That is, if every part of the basin is 1 foot from the filament, its inner surface will be illuminated to an intensity of 163 foot-candles, or a brightness of 1.13 candles per square inch. No surface in view should have a brightness exceeding, as a maximum, .2 candles per square inch, and preferably less if the surrounding luminous surfaces are materially less than .2 candles per square inch in brightness, so that the basin must be of such quality that the brightness of its exposed surface will not exceed this amount. That is, the luminous surface of the basin must not exceed in brightness a surface illuminated to an intensity of 28.8 foot-candles. This, it will be noted, is just about the

illumination on the ceiling, and is a proper condition if it can be reached. Actually no harm will ensue if the basin is thirty times brighter than the ceiling thus introducing a brightness contrast of 1 to 30.

The intensity of the light emitted by the basin (28.8 foot-candles) is about one-sixth of the intensity of light (163 foot-candles) received on its inner surface, so that four-fifths of the incident light must be disposed of by reflection and absorption. Since the fixture is to have an efficiency of 80 per cent, 20 per cent of the total flux emitted by the lamp may be lost. The lamp emits 2,046 lumens. Therefore, 409 lumens may be lost in the basin.

A good, dense opal glass, with polished surface, will reflect about 70 per cent of the incident light. In this case, since say 65 per cent of the total lumens emitted by the lamp, or 1,227 lumens, is received on the glass, the number of lumens emitted by the basin, which is say, 7.5 square feet in area (65 per cent of the total area of a sphere 1 foot in radius), is 7.5 square feet times 28.8 foot-candles, or 216 lumens. And this is 216/409 or nearly 50 per cent of the lumens admitted into the glass. The glass must therefore show about 50 per cent absorption, which corresponds to a fairly heavy optical density, particularly if the glass is to be single thick so as to avoid undue weight.

However, since the basin, under these conditions and with a fairly bright ceiling above, may be smaller and correspondingly brighter, a basin of this density equivalent to a hemisphere 14 inches in diameter will answer the purpose.

At this point, recall the size and brightness of such basins frequently used, with even larger lamps, in rooms with comparatively dark ceilings—effectual causes of headache and indigestion! Think this over.

Some **Indirect** and **Semi-indirect Fixtures** made by The Duplex Lighting Works of the General Electric Co., are described on p. xiii of the **Industrial Section**; and as made by I. P. Frink, Inc., on p. xxi. See, also, the Diffuselite Co., p. iv.

Treatment of Reflecting Surfaces

It will be seen, from the above calculations of the number of lumens required to light the given room, how important is the question of the reflection factor of the interior surfaces. Since all but a comparatively small portion of the light emitted by lamps is initially received on the ceiling, any reduction of the reflection factor of the ceiling means a corresponding increase in the number of lumens that the lamps must emit. A change in this reflection factor from 50 per cent, which is the reflection factor of a light buff lead and oil, to 70 per cent, which is the reflection factor of fresh white lead, means an increase in illumination on the working surface in the room of nearly 50 per cent, if the treatment of the wall-surface shows a reflection factor not less than 50 per cent. In one office, rekalsomining the ceiling, leaving the walls as they were, with a comparatively low reflection factor, increased the illumination on desks 30 per cent. It is not too much to say that the selection of the wall and ceiling coatings is more important than the selection of any particular type of reflector equipment on the lamp.

With *direct* illumination, that is, with reflectors open and pointing downward, and the lamps fairly close to the

ceiling, then, under normal conditions, the amount of light received on the working areas from the walls and ceiling is between 30 and 40 per cent of the total received. This percentage is increased to about 85 per cent with the normal semi-indirect method of lighting, and reaches 100 per cent with indirect lighting.

Diminution of Reflective Capacity

It has been found that lead-and-oil coatings lose their reflection factor quite rapidly—about 15 per cent a year, independently of dirt accumulations—due entirely to chemical changes in the paint. In the case of kalsomines, and similar paints, the loss in reflection factor is about the same as with lead and oil, but due to the absorption of dirt into the porous paint. It is, therefore, a decided economy to use paints which contain no lead and little oil. It is possible to produce a paint of this type which maintains a practically constant reflection factor and which can be readily cleaned. The cleaning will restore the reflection factor almost to its initial value.

Tinting

Where tinting is considered necessary, it should be remembered that lamp-black has an exceedingly low reflection factor, so that even a small portion of it mixed into the paint will reduce the reflection factor of the paint materially. If tinting is essential, it should be obtained in other ways than by the use of lamp-black. For instance, a series of greys can be obtained by mixing various red and blue pigments and thinning them out with white. Such greys have a lively appearance and lack the dead quality of the grey obtained by the use of lamp-black. They also have a considerably higher reflection factor than similar tints obtained with lamp-black.

Painting

This question of painting is obviously one that should receive the most careful attention of every architect when specifying the interior finishes in buildings used for commercial purposes, and where the cost of operation is a material factor.

In one very large office building, the suggested change from light buff-tinted ceilings and dark buff-tinted walls to the kind of treatment suggested above would have saved in energy consumption for lighting about \$14,000 a year. Under these conditions it would obviously pay to use a paint that can be thoroughly cleaned without injury and to pay the cost of the cleaning at least once every six months. There is hardly any necessity for mentioning the fact that similar economy can be brought about by frequent cleaning of the lighting fixtures. Even the so-called dust-proof enclosed fixtures require cleaning if their efficiency is to be maintained.

For additional data on **Reflecting Surfaces**, see **Industrial Section**, Edison Lamp Works, pp. xiv-xix, Diffuselite Co., p. iv, and J. G. Wilson Corp., p. xx.

It is also obvious that if interiors are treated as above suggested and the windows are equipped with light-directing blinds, so that the maximum daylight intensity is thrown upon the ceiling, a minimum amount of daylight need be used, and this suggests the possibility of reducing the size of the windows, permitting better exterior appearance of the building—all of which is entirely aside from the question of ensuing physical comfort of the occupants, which has been previously mentioned and discussed.

While the above example deals particularly with the lighting of an office, the principles illustrated in this example are fundamental in all systems of lighting for every purpose, and while they must necessarily be modified to meet less utilitarian conditions, they must always be kept in mind, otherwise the character of the building or room will not be suited for the use intended.

Daylighting

While much of what has been said above is applicable to daylighting as well as artificial lighting, there are a few matters relating particularly to daylighting which deserve mention. It has been said above that the amount of daylight admitted by any aperture is solely a function of the sky-area or area of other brightly lighted surface that can be seen from it. If the daylight cannot obtain access to the window, the window as a lighting source is useless.

It is therefore obvious that, in the architectural design of every building, proper precautions should be taken to make certain that the required amount of daylight will find access to windows or other lighting apertures, as otherwise artificial light will have to be used with the corresponding increase in cost of operation.

It is a common thing to see courts and light-wells so designed and treated that daylight has little or no opportunity to find its way to the windows opening onto these courts or wells. It is a common thing to see designs for elevations of buildings represented with daylight upon them in a manner that will never occur when the building is built. It would seem that, since a building, particularly commercial structures, must be adequately lighted if they are to function properly, their design should be based on the daylight available and the most made of it.

This matter has gradually risen to such importance that we find city laws and state laws making more or less unscientific efforts to correct the difficulties, and the architect is compelled to make his design conform to such laws. Should not the architect himself be the one to take the initiative and to learn at least a little about daylight and how it can be handled?

The subject is entirely too broad and complicated to discuss in detail in an article such as this, but a considerable amount of data has been collected and is available for the architect's use.

For data on **Glass**, see Mississippi Wire Glass Co., **Industrial Section**, p. xxviii. For **Daylighting Devices**, see **Industrial Section**, J. G. Wilson Corp., p. xx, and the Diffuselite Co., p. iv.

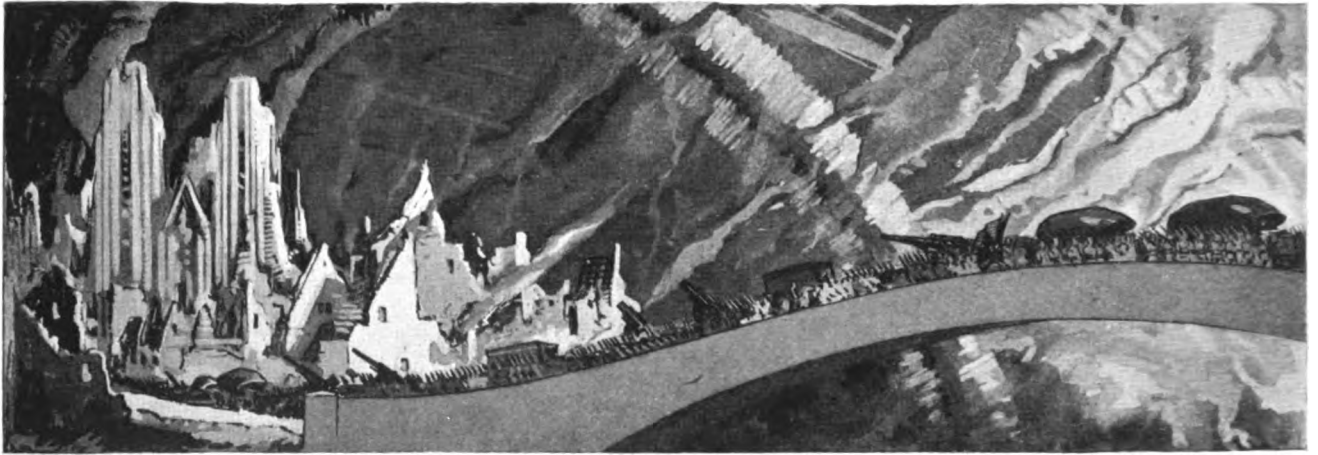
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Shadows and Straws

CONSTANTINOPLE and the Golden Horn! The words are almost magic in their power to weave a fantasy of mosque and minaret set gaily amid the riotous splash of Eastern color, or toned more soberly with the mystic dignity of the Orient. Men say that the city of Constantinople sits upon the noblest site in the world, and that the memory of her glories haunts them with an abiding presence.

"Secure as a mountain fortress guarded on both sides by impregnable passes, she stands protected on either hand by rushing straits like deep salt rivers—straits renowned in the history of three thousand years, and adding each century to their renown. Whoever for the next hundred years shall possess her will hold a key to one of the world's great doors."

Napoleon said that to command her was the ultimate end of all European diplomacy, and, upon the great chessboard of world affairs, what other piece has been so powerful in proclaiming both mates and stalemates?

Christened Byzantium, she bore the name for a thousand years. For fifteen hundred more she has been Constantinople, as much Eastern as Western, and yet with something specially her own, not of the East nor yet of the West. So great was the struggle for the possession of the city of Constantine that its sieges are among the most memorable in history. The Persians, seeking to pierce its defences, were once camped for ten years across the Bosphorus. Goths and Huns, Slavs and Persians, Bulgarians and Hungarians, Turks and Russians have battered at its gates, which, for a thousand years, marked the easternmost fortress of western civilization, controlled the destiny of an empire and the fate of a religion.

For fourteen hundred years, almost, she has treasured and miraculously guarded the church of Sta. Sophia. In regard to the difficult question, involving factors not easily realized or measured by the western mind, as to what religious authority shall take over Sta. Sophia in the future, *The Nation* (London), has an excellent article from which we quote:

"Constantine himself, in designing his new 'City of Rome,' chose the site for the basilica consecrated to the Divine Wisdom. Destroyed by fire only two or three generations later, during the riots which followed St. Chrysostom's endeavor to amend the city's way of life, the basilica was rebuilt on more splendid lines. But it was again destroyed during the 'Nika' dissensions of Blues and Greens in the Hippodrome. . . . That was in 532, and it was then that Justinian began the amazing edifice which remains a wonder of the world, although from time to time exposed to religious discords as destructive, though perhaps less wanton than the rivalries of racing chariots wearing the colors of Blue or Green. His pious intention was, no doubt, encouraged by Theodora, that incomparable prostitute, whom he had raised to the throne which she was afterward to save, and whom he certainly consulted in his codification of moral and legal institutions. It was, however, to the great architect, Anthemius, that the triumph of the structure was due; and it was through his skill that the church has survived the assaults and batteries of so much and so diversified religion. It even survived the burning of the city, the pitiless massacre of the inhabitants, and its own desecration by the Catholics of the Fourth Crusade under Dandolo, the blind Doge of Venice. It survived, with hardly less risk, though the enemy was no longer included in the same Christian brotherhood—it survived the final capture of the city by the Turks on that fatal Tuesday in May, 1453, when the Sultan, Mahomet II, himself interposed to save it.

"On the evening before that dreadful day, the last of the Byzantine Emperors, passing on his way to death upon the breach, attended the last Christian service held up to now within that temple of God's Wisdom. Next evening the devastation began, and the old church was plundered

of its accumulated treasures, and of the pillars and marbles once plundered by Justinian from the no less beautiful shrines of classic deities. For nine centuries the church had stood as the center of Greek orthodox faith, and around it had raged the controversies of impalpable metaphysics to which the Greek mind was naturally prone—controversies more subtle, though hardly less embittered, than the doctrinal divisions of the Western Churches. Now, for nearly 470 years, though retaining the name of Wisdom (since Wisdom is universally assumed among the divine attributes), and though still haunted by strange omens and visions of a Christian past, the great church has been a Mohammedan mosque, the old inscriptions nearly obliterated, the sacred mosaics upon its walls whitewashed over, the set of the building thrust all askew so as to point south rather than east, toward the Prophet's tomb."

INTO WHAT HANDS IT IS NOW to be entrusted is one among the many minor problems involved in the readjustment of Europe.

"Indeed," continues *The Nation*, "it is hardly to be called a minor question, even among the enormous problems now affecting the very existence of mankind. That ancient dome, now barely supported by its flanking walls, stands as a sacred symbol to the whole Greek race and to the whole Greek form of Christianity, including such religion as may remain in the Russian Empire and the Balkan States; including even Bulgaria, where the Exarchist schism is still young, as schisms go, and where the thought of a Bulgarian Tsar entering the city and restoring the Cross to Saint Sophia acted like a divine inspiration upon the Bulgarian peasant soldiers in the Balkan War of 1912.

"Restoration to the orthodox church would seem quite easy, were it not that the church has become a symbol to Islam as well, and Moslems can found their claim on present possession and constant use. There must be a Statute of Limitations to historical claims, they might well plead; otherwise to what form of Christian religion should the old cathedrals of England belong? 'Shall idolaters who kiss pictures and bow before the semblance of created man worship again in the shrine which the Sword of Islam has purged? Will you light a spark of unquenchable rage in the hearts of millions among the Faithful inhabiting the vast regions of a British Empire, soon to be made vaster still? Rather will we shatter the holy building itself before we go, and leave the Greeks nothing but a ruin of crumbling stones to weep over.'"

Frederick Harrison, writing some fifty years ago, commenting upon the final capture of Constantinople by the Turks and of the religious transformation of Sta. Sophia, wrote as follows:

"It is a fact, almost without parallel in the history of religion, that the Mussulman conquerors adopted the Christian cathedral as their own fane, without injuring it, with very little alteration within, and even without changing its name."

His description of the church itself is a memorable one and well worth reprinting here:

"The Church of S. Sophia is, next to the Pantheon at Rome, the most central and historic edifice standing erect. It is now in its fourteenth century of continuous and unbroken use; and during the whole of that vast epoch, it has never ceased to be the imperial fane of the Eastern World, nor has it ever, as the Pantheon, been desolate and despoiled. Its influence over Eastern architecture has been as wide as that of the Pantheon over Western architecture, and it has been far more continuous. It was one of the most original, daring, and triumphant conceptions in the whole record of human building; and Mr. Fergusson declares it to be internally 'the most perfect and beautiful church ever erected by any Christian people.' Its interior is certainly the most harmonious, most complete, and least faulty of all the great domed and round-arched temples. It unites sublimity of construction with grace of detail, splendour of decoration with indestructible material. It avoids the conspicuous faults of the great temples of Rome and of Florence, whilst it is far richer in decorative effect within than our own St. Paul's or the Pantheon at Paris. Its glorious vesture of marble, mosaic, carving, and cast metal is unsurpassed by the richest of Gothic cathedrals, and is far more enduring. Though twice as old as Westminster Abbey, it has suffered less dilapidation, and will long outlast it. Its constructive mass and its internal ornamentation far exceed in solidity the slender shafts, the paintings, and the stained glass of the Gothic churches. In this masterly type the mind is aroused by the infinite subtlety of construction, and the eye is delighted with the inexhaustible harmonies of a superb design worked out in most gorgeous materials.

"For Justinian and his successors ransacked the empire to find the most precious materials for the 'Great Church.' The interior is still one vast pile of marble, porphyry, and polished granite, white marbles with rosy streaks, green marbles, blue and black, starred or veined with white. The pagan temples were stripped of their columns and capitals; monoliths and colossal slabs were transported from Rome, and from the Nile, from Syria, Asia Minor, and Greece, so that, with the Pantheon at Rome, this is the one example of a grand structure of ancient art which still remains unruined. The gilded portals, the jewels, pearls, and gold of the altar, the choir adornment of cedar, amber, ivory, and silver, have long been destroyed by the greedy soldiers of the Cross; and the mosaics above with seraphim, apostles, prophets, and Christ in glory have been covered up, but not destroyed, by the fierce soldiers of Mahomet."

SIR THOMAS JACKSON now raises the question of the structural stability of the dome of Sta. Sophia in a letter to *The Times* (London). While in Constantinople in 1910 he was asked by the Turkish Ecclesiastical Commission to inspect the building and report on its condition, and although he was unable at that time to make more than a short examination, the serious nature of its structural defects was very evident. He says:

"I found on examining the building a serious inclination outwards in the side walls north and south, together

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with the columns on each floor next to them. The columns at the northeast and southeast corners lean out diagonally, both in the ground story and the gallery. The northwest part, where the 'sweating column' stands, is better supported by buildings outside, but by plumbing the walls in the center of the building it appeared that the inclination was as much as 1 in 43. This yielding of the side walls has dislocated the arches and the vaulting; the arches through the great buttresses are much deformed, and no longer semi-circular; some of the vaults have sunk badly, and one in the north gallery seems in danger of falling.

"An alarming bulge in the northeast pendentive catches the eye as one enters the church; but it is only when seen from the gallery surrounding the dome at its springing that the full amount of the disturbance can be detected. From that level it will be seen that three of the great arches carrying the dome are much deformed, and that all the pendentives have suffered and lost their shape, so that the base of the dome no longer forms a true circle. The dome is constructed with 40 ribs of brick, converging on a circle at the crown; the crown seems to have sunk, and many of the ribs, especially on the east, south, northeast, and southwest sides, have sunk so badly as to have lost their arch construction, and to have become either straight or convex on their under side, where they should be concave. . . . The deformation of the dome is nothing new; it is noticed in Salzenberg's volume, published more than half a century ago. It is the result of a long series of catastrophes; M. Antoniades gives a list of, I think, 35 earthquakes by which the church has been shaken, and by which, in my opinion, the resistance of the great buttresses north and south has been weakened. It is to them, I think, that attention should in the first place be given and to the great piers which they support, and till they are secured it would be in vain to try to mend the dome. That the dome has not fallen is due to the singular stability of this form of construction. I remember noticing at Casamicciola, in the island of Ischia, that while most of the ordinary churches were thrown down by the great earthquake of 1883, and were still ruins, those that had cupolas were still standing. At Sta. Sophia, Paul the Silentiary tells us that, while half the dome fell 21 years after it was built, the other half remained 'insecurely hanging in the air, a wonder to behold.' Its construction by ribs makes this very intelligible, and also makes any reconstruction more easy. That it has survived to this day is a wonder, but the time has come when something more than the patching and propping by which it has hitherto been sustained is necessary, and when the construction should be seriously and scientifically repaired.

"There is no need to dwell on the loss to the world should any disaster befall Sta. Sophia. It is a building unique both artistically and historically. It is the perfect flower of Byzantine architecture; it is a marvel of construction that has never been rivalled or repeated; and it has been the scene of events from Justinian downwards that have influenced the history of mankind."

Who will not cherish a fervent hope that this church, one of the sublime architectural achievements of all time, may not be made safe against both the ravages of time as well as

against such a tragedy as that to which *The Nation* alludes?

HOW STRANGE IT SEEMS to read that the actors of England have rebelled against the commercialism of the drama and that they have adopted, among other things, a Standard Contract! In a letter to *The Nation* (London), Mr. Ivor Brown narrates the history of the movement, and in these days of professional quickening and stirring (a similar movement is reported among the actors in the United States), it may not be amiss to give ear to what one of the oldest professions in the world has accomplished in an old country. We quote from Mr. Brown's letter as follows:

"All who are interested, from whatever standpoint, in the welfare of the drama must be heartened by the energy of the Actors' Association, which has culminated in the securing of a Standard Contract. Never were trade union organisers faced with a more formidable task than when they set out to overcome by assault the chaos of the dramatic profession. For theatrical life is not only hedged about with the traditions of commercialism, but it is also a stronghold of individualism. At first the profession resented the idea of trade unionism as undignified, but this idle folly was soon routed by the combination of courageous propaganda and of economic fact. The tremendous rise in the cost of living forced the lower-paid ranks of the actors to unite despite of any remnants of false pride. The managers might still expect the chorus girl to rehearse for nothing and dress like a duchess on a wage of thirty-five shillings for those weeks in the year when she was at work; but those expectations were happily in vain. The logic of events proved irresistible. The Actors' Association became a trade union; members poured in and the 800 of last year became the 6,000 of today.

"An agreement has been reached between the Association and the West-End managers, . . . based on the lines of most trade union settlements between employers and employed: it is, roughly, an 'hours and wages' understanding. The minimum wage of the actor (the word must of course be interpreted bi-sexually) is to be three pounds for a week of acting and two pounds for a week of rehearsing. Engagements must be either for the run of the piece or for a period of not less than four weeks, with fourteen days' notice on either side.

"But the Actors' Association has not limited itself to the consideration of hours and wages, vital though such considerations are. Mr. Sydney Valentine, speaking as chairman, . . . said that there would be established a proper training-school for actors and that they hoped to make the Association the only means of entry into the profession. What is this but the revival of the guild and the assumption by the producer of responsibility to the public for the quality of his wares? No wonder that Miss Lilian Braithwaite, (also speaking) justified trade unionism in an artistic profession against snobbish criticism by an allusion to the medieval guilds. Control of entry to the

profession by the existing members is a strong weapon against the unscrupulous employer who would go out into the highways and hedges for cheap and unqualified labor. The ordinary actor can always justify the wretched state of our drama by pointing to the commercial syndicate that buys its labor as it buys its programme-paper. If the employer can only obtain labor that has passed through the training authorised by the union, then the union takes the responsibility for the quality. Mr. Valentine also foreshadowed the Actors' Association Theatre, and, indeed, such a proposal is the logical outcome of a trade unionism which accepts responsibility while it demands its rights. The National and Municipal Theatres of tomorrow will assuredly not be run by an official in Whitehall or by the local sons of Bumble. They will be controlled by the actors themselves. . . .

"The Association intends to be responsible to its members for making their profession 'one that everyone could be proud to belong to, a profession in which all members could live an honest and wholesome life.' It also intends to give the community a pledge that every actor is a trained and competent artist, and that, as far as in it lies, the English drama shall be rescued from the exploitation of syndicates who think only in terms of dividends. There may still be a long way to go, but there seems to be no lack of determination in the voyagers, and no lack of skill in the guides."

READERS WHO ARE AWARE of the tremendous trade union movement in England, of its new character, of its extension into the field of brain-workers, teachers, clerks; of the economic foresight of its leaders; of the impending changes in industries which are destined to reshape the national life; of the extension of the functions of the unions to a point where they shall not only share in the control of industry (as now seems assured in coal and railways), but perhaps take over the entire control of it, will perceive the significance of this program of the Actors' Association. But it is wise to realize all that this means; the element of responsibility is stressed in all that Mr. Ivor Brown says, and it is only by the acceptance of responsibility that any real progress can be made. Any organization that uses joint action merely to protect its financial interests will be reduced to impotence in the future. Such an organization will thrive and prosper just in so far as it accepts responsibility for the professional performance of its members, and that will be possible only by a control of the means of entry into the profession, just as in the days of the guilds. If the actors of England do not raise the professional standards of their art and give better plays and better acting, their guild will be of no avail.

But the modern guilds of England must not

be confused with the medieval guilds. They are based upon the principle of organization along industrial lines. All men or women, no matter in what capacity or whether working with hand or with brain, who gain a livelihood from any industry, will form the guild of that industry. The State would own the means of production, or the plant and equipment, while the industry would be operated by the guilds. They would have a central guilds congress presiding over the whole organization of producers, for every producer would have to be a member of a guild, while the State would be represented by a parliament or congress representing the entire organization of consumers.

It is the guild's principle carried forward to a point where it would unite with the State not only in the political control of the nation, but in the industrial control. Centralized industry, first established in England, appears to have come to a definite parting of the ways, and may develop new relations of industry to government such as will eventually affect all countries.

THE NATIONAL GUILDS OF ENGLAND offer a principle of industrialism which must make an instant appeal to whoever thinks of industry in terms of work willingly done, of work made interesting and even joyous, of work dignified as a service no matter what form it may take, of collaboration in a common effort toward the amelioration of the ills of men. It does not mean that industry would be controlled by a bureaucracy. On the contrary, it aims at the reduction of the bureaucracy and the end of that indifferent result which always seems to follow a governmental operation, and the setting up of a form of control that means competent workmen fairly paid, an education founded upon both general culture and a trade apprenticeship, and a centralized responsibility for the performance of the guildsman and for the product that comes from his labor.

It is not a perfect cure for all the present-day maladies of government and of industry, but it is by far the most worthy step forward, out of blind chaos and into human ways, that philosophers have so far offered to the world. Unless it, too, is quickened by a spiritual stirring through which men shall learn the dignity and value of life itself, in all humans wherever found, then the guild will fail to achieve

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all the possibilities that lie within its philosophy.

Architects will perceive in Mr. Brown's narrative many points related to the architectural profession, particularly in connection with individualism, education, responsibility, and control.

ANOTHER INTERESTING ORGANIZATION movement in England is also referred to in the Journal of the R. I. B. A., and is as follows:

The first meeting of the Architects' Assistants' Professional Union was held on April 29 for the purpose of extending the movement for the formation of a union for salaried architects, quantity surveyors, draughtsmen, and technical assistants. The stated intention of the union is to secure: (1) The improvement of the status of the professional assistant; (2) the efficiency and training of

professional men; (3) adequate salaries and payment for overtime; (4) open references; (5) abolition of unpaid assistants; (6) representation of assistants in professional bodies; (7) the encouragement of a feeling of coöperation between the practising architect and his assistants for the mutual benefit of both. In constituting the union it is proposed to have an executive council elected at a general meeting, which council should consist of fifteen members, two of whom would be elected by the probationary members. The president would be elected from the committee and by them, and would hold office for one year. Subcommittees would be elected by the general committee to deal with specific subjects, and their reports would be referred to the general committee for approval. A full member must be an assistant on work governed by the scales of the R. I. B. A. or M. S. A. at the time of application for membership, or must have had five years' experience and such technical training as might be approved by the committee.

C. H. W.

Education Toward Reality*

By C. GRANT LA FARGE

THERE is no small measure of temerity in my venturing thus to address you upon a subject of which I can claim no practical experience. What right I may possess in the premises springs from the prolonged opportunity life has given me to observe my own deficiencies as well as those of others about me, and from certain reflections occurring as the result of what I have encountered in Government service. This has led me, as the war has led so many people, to see some old things in a new light, and, perhaps, if not to see them very clearly yet, at least to suspect that there are new things to be seen. I must be general rather than specific; speak of principles rather than methods; if in my thoughts there chance to be anything of value, your discussion of it should point the way to giving it practical effect.

All of what I mean to say is in advocacy of reality; of making the educational processes with which we are concerned lead, as all other education should lead, toward the reality of life and its exactions, not away from them; of not fearing to heave overboard even the most cherished rubbish, once we find it to be rubbish; of daring to follow new paths, no matter how troublesome, if they will lead to the real highways men must travel. But if anyone thinks I stand here to propose the scrapping of all old

things, the deriding of all tradition, that I have swallowed whole all the recent educational panaceas, let him now discharge his mind of that notion. This is not the occasion to discuss the subject, but one thing may be said: Tradition may be good or it may be bad; we suffer as much from the bad as we benefit by the good; I would scrap the bad ones. I would see all of them subjected to the kind of impartial scrutiny, based upon no previous assumption either of sacrosanctity or imbecility, that would determine which were valid and which not. If I can have my way, you may fasten on me any label that best suits your predilections, and I shall not much care what it is.

My concern is with reality, whose bounds are not what we may touch and weigh, buy and sell—not material only. It includes them, for whoso builds must deal with them; it includes also the reactions, one upon another, and the relations, of material facts and things and those motives, acts, and feelings which in their sum make the life of the individual and the community. Of these relations and reactions the war has shown us that we must open our eyes to new views.

The purpose of our present inquiry is the education of those who mean to be architects. To determine your education you need first to know what result you propose to accomplish;

*An address delivered before the Society of Technology Architects.

therefore, I shall take a glance at ends before I inquire into means.

The architectural world has for some time past been in a state of dissatisfied, apprehensive unrest which has found expression in many ways—in schemes to advertise itself, its usefulness, and significance; in somewhat nebulous speculation about the causes of public indifference and lack of appreciation; in protests against the invasion by others of its legitimate, preempted field; in assaults upon canons of professional ethics, as though their lesser technicalities were of much moment to a busy, preoccupied world or of any great effect in a body that, while wrangling over the letter, disregarded the spirit; above all, in the agitated critical self-analysis, the anxious reaching out for ways to a better status, that have filled, and are filling, so many pages of their magazines.

Were one a humorist, were he looking only for contributions to the human comedy, these expositions of our intellectual vagaries, our gropings and bewilderment, our occasional horse-sense, would furnish no little curious entertainment. But that is hardly the becoming rôle for us, in face of the quite real predicament of our calling. So, with no attempt at any sifting of values or determination of the relative luminosity of the explanations offered to account for our woes, or the proposals made for their cure, let us try to see what it all means; let us seek some common source from which flows the vexed tumult of this troubled stream. And if I am not mistaken, if my own flounderings in many bogs in pursuit of will-o'-the-wisps have not induced a habit that has set me forever astray, then we shall find it in the detachment of the profession from the actualities of contemporary thought and life, that is, from reality. The evidence of this, very plain it seems to me, appears in the character of the unrest. It is pervaded, throughout most of its manifestations, by a constant note of anxiety, conscious or subconscious, over failure to maintain practical connection with the popular energy; the most pertinent advice, so far as practicality is concerned, comes from those whose individual fitness has given them that connection. Whether the architect should consider himself and be considered an artist or a business man; how he should conduct himself in one or the other, or in the dual capacity; what service he should

render and how to make the world value that service; to what extent he should be responsible for the quality and result of his service; whether or not his acting as a builder would, after all, really spot his professional immaculateness; why he is underpaid; jealous tremblings lest the dignity of his profession be not recognized, while he squabbles about the extent to which he may himself invade its dignity—among all these there is much clamor of tongues. And there is a real yearning for service, with complaint about being denied the rendering of it, that is at once noble and pathetic: noble, for desire to serve is one of the finest human urges; pathetic, since so much of it is futile. Why? Because it is divorced from reality; because it remains an emotional state, a kind of "wishful to be helpful" attitude that is amiable, but an infernal bore. Out of it all comes the sense of confusion, of a beating of the air, of the plaintive voices of those straying in the wilderness.

I shall not enlarge upon it, make no attempt to analyze it, for that would lead me too far from my subject. But one can hardly help asking whether the origin of the trouble does not lie in education, the education of which the teaching of schools is but a part, though a vital part; and if this be so, whether it is not demanded of us whose education by experience and environment is proceeding so painfully, that we should look very closely at the schooling to be given to those who with ardent hopes intend to follow in the path we have chosen for ourselves.

Lest it be thought that these remarks of mine lead nowhere, or that I am become the victim of some strange new narrow utilitarian beliefs, let me say now that I intend to show why I hold that contact with reality is necessary to the art of architectural design, and also to make at least one definite proposal about the manner of teaching. I can do these best, I think, by illustration; for that illustration I shall, instead of roaming over the wide diversified region of design and practice, confine myself to one phase of it only—all the better that it happens to be the one most forcibly insisting upon our attention today. But since this means great restriction, and since the phase is one whose utilitarian aspects are supremely important, I have an explanatory word to say first, about excluded matters.

I must, in great measure, pass by the region

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of esthetics, as well as that domain of study which has to do with what flows from tradition—the history of the art and its styles; must largely ignore what we call the theory of design. This is not a choice imposed by taste, but by limitation of space and by the necessity I feel to attain the utmost clearness I am capable of. I may even seem to have some quarrel with esthetics; I have none. My quarrel is only with the confounding of the esthetic and the practical; with disproportionate, misplaced, false, unreal esthetics, which are neither agreeable or useful.

I can think of no department of education which, sanely and honestly pursued, should be more free from the danger of extreme theory and experimentation, of either the reactionary or the revolutionary, than that of architecture. It is an art and it is a science, and it is also, if you please, a business. It must be practical, however devilish the ingenuity of our striving to avoid it; our extremest indifference cannot keep it from being highly technical. It must, were it only to maintain its existence, be the product of the habits and desires, the needs and the resources, the mechanical devices of its day; these it may lead or be led by—it may not escape them.

On the other side, it must deal with style, which we might conveniently define as the application of constructive principles expressed in terms of orderly, logical appropriateness and beauty. And since it is beyond the power of human effort to invent anything so complex at any one time and as a whole, for invention is the new use or modification or extension of what is previously known, therefore the architect, part of whose task is invention, is obliged perforce to know all that he can of what has come down to him from the past. But it is not enough for him to know it in a merely superficial external fashion; his business is to understand it, how and why it grew, what it means—otherwise his reckless use of it may be something to make the angels weep. He is confronted with the study of history. I wish I might say something of that study, but again there is not room here. What, in this rough way, I am trying to suggest is that one may not unreasonably see this particular educational field as a sort of happy meeting-ground of whatever is best in both "Gary" and the humanities.

To come now to the particular subject under

consideration, my plan is first to observe the way of the architect with an opportunity lately offered to him; next, the bearing of recent experience in the handling of that opportunity as a war-measure, and, then, to see what it all points to in respect of the preparation of the future architect.

For several years past it has become increasingly apparent that the living conditions of laborers outside the factories, their dwellings and their environment, were urgently in need of attention. From whatever standpoint the matter was considered, of human productive efficiency or human well-being and happiness, so long as the approach was honestly made, it became increasingly evident that the effect of these conditions was deep, far-reaching, and widespread, upon health, morals, juvenile delinquency, industrial unrest—in short, upon the fundamentals of citizenship in the case of those who by number constitute its bulk, while the inevitable reaction upon the more prosperous minority, though certainly grave, was hard to measure. It was also sufficiently plain that the conditions existing, though sometimes rising to a drab, joyless mediocrity, were mostly vile. It did not need the penetrating insight of supreme genius to discover that the prevalent housing of the working classes was a corrosive poison in the very midst of the republic; it did need an active interest and a knowledge of entirely ascertainable facts. It needed perception of the truth that people who live in squalor and ugliness that normally should and would revolt them, become, at last, blind to their surroundings and indifferent to them, except as to physical suffering, and even that they somehow manage to bear, but that the price must inexorably be paid, of filth, disease, sorrow, failure of education, brutishness, disorder, hatred, and crime; that the gentle ministrations of esthetic benevolence are superficial lotions applied to radical corruption. The divine marvel and mystery is that out of such awful culture-grounds there does come sometimes so much of beauty and aspiration, but for that indestructibility of the human spirit man may take no credit nor count it in palliation of his indifference and neglect.

Meanwhile the world was moving. Great Britain was at work and so was Germany. There was a stirring here; associations were

formed and held meetings, at which industrial housing and town-planning were discussed; the effect of living conditions upon Americanization was demonstrated; articles were written and lectures delivered; some actual housing work was undertaken, either directly by the industries or by independent organizations; one company in New York showed a most illuminating example of sound planning, advanced management, and healthy financial basis. Then the United States went to war, and the deluge descended. There is no need to elaborate the details of the story; it is familiar to all of you.

It is of the great body of the profession that I speak, not of the exceptional individuals, when I ask, Where were the architects? On the sidelines. What did they do? Well, nothing much that amounted to anything. When civic and professional societies convened to discuss the housing problem, they were not there. They were dimly aware of garden cities abroad, and really liked the pretty pictures, but did not look much closer. They shuddered at the slums and deplored the unkempt suburban ugliness, and, in the intervals of their debates about the ethics of advertising, they advocated the City Beautiful until the world rebelled, and then they worked hard for Civic Centers. Splendid monumental plan and design would elevate the public taste and teach the ignorant, the shiftless, and the indifferent that beauty paid. Social miseries were to be cured by the application of what a certain brilliant designer, himself the author of many a lovely colonnade, once called "Ironic colyumes." They felt that the dwellings of the proletariat were surely a problem; that it ought to be solved; they confidently hoped to get some of it to do—not that they knew much about it, but relied upon their old assumption that they were, *ex officio*, Admirable Crichtons, and hence, when the work came, would promptly learn all about it. They were members of that native school of optimism whose conspicuous exemplar is the late, but by no means lamented, Mr. Bryan, who assured us that overnight a million men would spring to arms. All over the country they saw endless cheap houses erected, how or why they knew not—it has been stated that our normal expenditure is something like a billion dollars annually—and realized that architects had nothing to do with them. They spent no little energy in

moaning over the intrusion of their tribal enemy, the engineer, feeling him, and not unreasonably so, to be in the designing of appearance a barbarian, and in group-planning a joke, but seeing him, nevertheless, get away with the goods.

And what of all those elements and conditions which enter into the housing problem—those that make it a problem and those that carry promise of its solution—how did the architects deal with them? What did they know of the distribution of labor, its wandering wasteful shiftings; of the chaotic employment methods; of the equally chaotic ways of rental and sale; of labor classes and their earnings; of the relation between wages, rents, and sales; of the dependence of the small homeseeker upon that bloodiest fish that swims the financial sea, the loan-shark; of the ways of the real-estate speculator, of the speculative builder; of the distance that the workers could, or would, travel to and from their work, and how they did it, and what it cost them in money, and time, and fatigue, and what it cost the employers in diminished production and labor turnover? Did they know how the workman lived, how much he paid, and how it worked out for his family? Did they know how he and his wife liked it, or what they did like and would buy if they could? Did they know how much a proper cheap house, or a quantity of them, should cost? What they actually did cost? Did they know what were all the things that go to make up the cost of such a house? Did they know why industry-owned and -controlled housing wouldn't pay; why the worker would rent, not buy it? Did they know how and why philanthropy and paternalism invalidated so-called "model" schemes? Did they, I won't say know, but have even a glimmering of what the management of industrial villages means? How aware were they of a plan of management and rental that not only seems to be in very truth a model, but that pays all it ought to, and that provides, instead of a depreciation fund, one for the replacement of its buildings when they have reached the end of their economic life? Had they worked for housing laws, as distinguished from tenement and building laws? Had they proposed any system of loans such as the Federal farm loans? Had they tried to get groups of industries to back housing plans, for their own joint benefit, but under independent control?

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I might go on; I have asked enough. The answer must be in the negative.

Evidently something was wrong with the architects; what was it? When we contemplate the great works of great past times; the triumphs of Greece and Rome, of Byzantium, of medieval France, it is easy to feel that their makers must have been a race of giants. Yet everything we know of man, of his nature and capacity, of what circumstances and environment will produce in him, tells us that such a conjecture would be sheer nonsense. Whatever men have done, man can do, and more. We have no warrant for supposing ourselves inherently incapable; we must seek elsewhere for the explanation of our weakness. I can find none better, all things considered—including the pertinent question whether the soil of industrial democracy, which produces no Pericles, no Mæcenas, no Lorenzo de' Medici, is fertile for art—than that which I have already advanced, of education away from reality. And we have, I think, one proof of it, a most reassuring proof, in the performance of these same architects, or many of them, when reality so impinged upon them that no evasion of it was possible. But of that a little later. In fact, it was part of the workings of the United States Housing Corporation which is the next item of my illustration.

This organization, created for the conduct of all the Government housing for war-workers other than that portion assigned to the Emergency Fleet Corporation, was, in substance, the assemblage into one great collaborative unit of all those branches of specialized knowledge and training which, in one way or another, are needed to treat a problem of congestion and labor turnover, whether by building or otherwise, in its truly manifold aspects. As description, this brief statement must suffice; it would take at least the full limits of my paper to give even a condensed account of all the parts and their functions.

For the designing of each housing development (projects, they are called) a Committee of Design was appointed, consisting of architect, engineer, and town-planner. They were chosen from private practice. They worked as a composite unit, the principle of collaboration being strongly emphasized. Indeed, experience so proved the absolute, unqualified need of this, that, shortly before the signing of the armistice

put an end to new activity, a project being launched that would have been by far the greatest of all—Neville City, near Pittsburgh, that proposed the ultimate housing of perhaps 60,000 people—the following scheme was adopted. A strong committee was appointed, to have full charge of the work and to act somewhat like the directing committees of our World's Fairs, having authority to employ such other designers as they might consider desirable. Their office was established on the site of the project, and they were required to take up residence there, as also would be all whom they should add to their number. One definite injunction was laid upon them; that there should be only one common drafting-room, and that in that room all the designers must work side by side. Had Neville City gone ahead, I believe we should have seen something for all the world to come and admire. Upon the appointment of a Committee of Design, its members were very fully and closely instructed in the objects, principles, and conduct of the work, and given the extensive information that had been so painstakingly collected, digested, and elaborated in Washington. Now, as to their performance. First, the architects.

In view of the very limited experience this country had afforded, and with due weight given to the exceedingly trying restrictions imposed by war upon the use of building materials and to the abnormal costs arising from the same cause, taking further into account the numerous difficulties in the way of procuring good workmanship, it is my best opinion that what they have done will, as a whole, shed luster upon the profession and be a credit to the country. The general level is good; it rises sometimes to distinguished brilliance. No words of mine, moreover, can praise too highly the spirit of devotion so plainly shown in the unselfish acceptance cheerfully of but slender remuneration and in most arduous work. This applies to all, not the architects alone. I pay this modest tribute to my brothers with a full heart and deepest satisfaction, though the object of my remarks is neither to blame nor praise, but to seek lessons for our guidance in the task ahead. I do not, for I may not claim that we, meaning the Housing Corporation, have solved this great problem. We had not time. I do claim that we have shown the way to its solution, and that is

a long, long step ahead. And we have shown one thing as never before in our day has it been shown: the possibility and the value of collaboration. We have seen artistic collaboration, but never such a union of all the forces as have toiled together in this work for their country's service.

Of the architects, then, this must be said: their common difficulty was the facing squarely of the practical. Their job was intensely, remorselessly practical. Not one single item of delightful appearance but must grow from the hardest, sternest limitations of design and construction. Never before did the dollars have to be so carefully counted. Cost to build and cost to design; the control of their own office expenses; the avoidance of wasteful ways of making drawings; the accuracy of mechanical layouts and of specifications; the money value of speed; the clear understanding and statement of their accounts; the realization of *why* cost was so vital a factor and of what cost actually consisted, and what it meant to the result of the investment—all these were essential. And they were weak, there is no gainsaying it; their attack was not strong, clear, and direct. In contrast with this, in the sharpest kind of contrast, were our old friends, the engineers. Their approach to the questions within their province was never fumbling, hesitant, but always straight and sure. When they made an estimate it was as nearly complete and accurate as possible; it showed not merely the bare, detached cost of installation, but included the other elements of cost that the investor must reckon with. In the discussion of the reports of investigations, upon which the determination of projects was based, the comments and queries of the staff engineers were notably searching, practical, and pertinent. The expense accounts of the employed engineers were clear and understandable. To sum them up, they were a convincing demonstration of technical sureness and orderly habit of mind.

If, then, the propositions I have advanced are correct: that the architect was adrift upon troubled waters, trying, as it were, to navigate without a compass; that in a most severely utilitarian task he managed to achieve beauty under adverse conditions; that his success was due in great measure to his being strictly, sometimes even harshly, chained down to reality;

that this reality was shaped and formulated by the remarkable collaboration I have referred to, and that part of it was the explicit contribution of the engineer, then it is pertinent to examine into their bearing upon education.

As this inquiry shapes itself in my mind, it suggests two somewhat similar branches, both growing from that same stem which I have called education toward reality. I can put forward nothing that will greatly help toward the composition of the long-standing difference between the architect and the engineer, unless it may be that each of them should try to become conscious of the extent to which the possession by him of what the other has would be to his great advantage. The application of the idea, in the case of the mature, must rest with everyone to determine for himself; its application to those who await their shaping seems to me clearer. At first blush it might seem to be the definite inclusion of engineering study in the architectural course, but though there may still be something to be said for this, I do not believe that it is the answer. To find the answer, we should ask what there is in the training of the engineer that produces the result we have just noted; for we must recognize that unless our youth had almost unlimited time and abundant personal means, even to give them the fundamentals of engineering science up to the point of its branching into specialization, would imply the sacrifice of too much that is essential to the study of architecture as an art. Then we should next ask what there is in the science of engineering that is necessary to be grasped by one practising the science and art of architecture, a field broader than that of engineering, including much of it, and requiring of those who cultivate it that they shall work with, coördinate, understand, criticize and control many specialists. The answer to our first inquiry will probably be, though I speak in much ignorance of engineering study, that the instruction of the engineer is not divided, as that of the architect so unhappily is, into an amazing and irrational separation of two interdependent things, even almost identical, that we know as design and construction. To our second query the answer will be that all that is comprised within the realm of construction, with its laws and principles, is the application of engineering science.

Therefore, it seems to me that from the very

EDUCATION TOWARD REALITY

beginning of the study of architecture—and I definitely include its history—every possible emphasis should be placed upon the unqualified integration of the theory and practice of construction with the theory and practice of design. The inseparability of the two should never be obscured or lost to sight; its presentation, in teaching, in discussion, in judgments, in the handling of school problems and theses, should be intimately and personally coordinated. That much of collaboration should be in the individual. The study of construction should be made as live, as real, as interesting as possible, and should include as much as may be possible of the fundamentals of engineering, rather than its more abstruse technicalities; how much this may be I very frankly do not know.

Let me repeat some of the reasons: That construction is an essential part of the very fiber of all real architecture; that since architecture is the art of building, the architect whose study and consequent bent is toward design as something independent of, or a sort of half-sister to, construction, is—forgive the vulgar pun—a paper sport. Construction, the fiber of design, is the essence of architecture, the very art of building, and should be the innermost self of the architect. Again, in the realm of all that specialization to which he cannot attain, he must use those who have; must understand and control and coordinate their work; the more he knows of its principles, the better he is qualified to do so. There is no honest architect but knows full well his deficiencies in this respect. Let us be honest. Last, and by no means least, is that which has so penetrated the minds not only of myself but many others in the service from which I have lately come: the direct, sure, competent, orderly habit of mind that the engineer's training evidently engenders. If the architect needs any one thing supremely, he needs this. And when he has it, we may look forward with some confidence to his entirely holding his own against the encroachments now distressing us, for he will be so much bigger and better and stronger than those whose successful invasion today is founded upon the assumption of an efficiency they do not fully possess, for they are too narrowly trained, too ignorant of the greater principles that real architecture includes and is founded upon.

Against the objection that to give any such

amount of what may be called engineering study in an architectural course is impracticable, I urge this. There is probably no department of education that, as a result of the war's effect, must not be overhauled. The days of educational dilettanteism are, or should be, over. We have got to face those of far more constant and intensive study, of more effective teaching. There must be some way of reorganizing old methods so that the streams which now flow in separate channels shall at least partly unite. More than that: there is need for a fair constructive examination of those academic curricula of universities which will be followed by the study of architecture, to the end that they shall directly lead, rather than straggle, there. This probably means some conscientious work with courses in history and fine arts. And why should not the same thing be done with the secondary schools? Who knows of any expensive private school where a boy with artistic bent, wanting quite clearly to be an architect, can get anything specifically chosen to be of value to him in the program he must thereafter follow for a good many years?

For the exposition of the other branch I have in mind, let me imagine a school problem—always understanding that my narrow exclusiveness is because of lack of time. This problem, for a change, is not predigested; it does not assume that some magnificently wealthy patriot intends to erect a palace for visiting imperial and royal exiles in a public park, and that the Corinthian order is appropriate. It has been preceded by certain visits to such places, say, as Bridgeport and Quincy; the plants and the housing and their relation have been discussed. There have been some talks to satisfy the interest aroused in the students, by a town manager, an industrial engineer, a town-planner, the representative of a housing association, others; the subject has become real. There have been some exercises in the design of factories as an esthetic problem. The small house and industrial town plans, here and abroad, have been studied. The problem, in its first stage, is presented in the form of an adequate map of some vacant property, accompanied by a statement of the facts relating thereto that are germane. First part of the exercise: say what should be done with this property and give the reasons why, and something of how. I said

the problem would not be predigested, but it is, to this extent, that all the indications given point to one logical solution; it may be even still further so in detail, according to the length of time assigned to its treatment, its extent, the maturity of the class, the judgment of the instructor. Those are details. First credit: for the answer, and the understanding exhibited in making it. Second stage: design the development.

I submit that, however crude the showing—and it might well be pretty crude—there would have been here an exercise of intelligence and live interest; that there would have been the direct contact with essential facts and life such as we must all deal with or fail as men and as workmen; that the processes of reasoning would have worked naturally from cause to effect, from the inside outward; that this would be education toward reality. We would do well to project our gaze forward and try to discover what that reality means. We have lived through the days of trifling with the inanities of the "city beautiful;" of a poor misunderstanding of town-planning as a thing of physical facts and arrangements only; we have emerged into the wider comprehension that tells us it means no less than planning for the very lives of men. It is not the mere planning and building of streets and parks, schools and dwellings and gardens, of their embellishment and the provision of the public conveniences we call utilities; it is the terms on which, the ways in which people, old and young, will travel and traffic in those streets, play in those parks, study and teach in those schools, dwell in those houses, cultivate those gardens. And it is how they may, and shall, cultivate the other garden, the garden of the mind and the soul, the garden that is in every human being, humble or exalted; the garden whose individual state is, we are learning, the common concern of all.

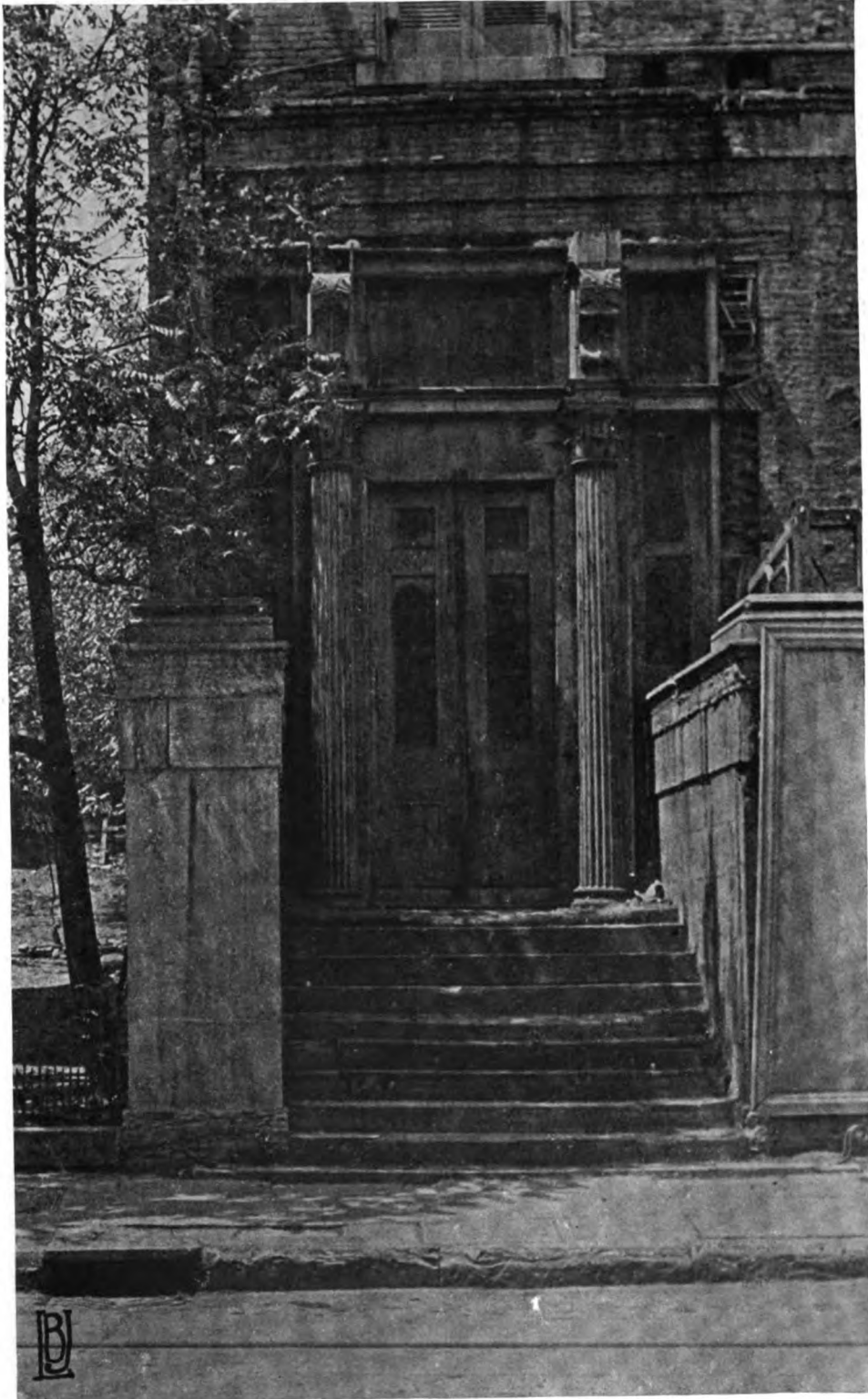
This planning may not be the work of any one class, or group, or profession; it requires the concert of all the constructive forces of the community; in it is work and to spare for each one who has anything real to contribute. The effort it must make is not merely one against the inertia of prejudice, lack of vision, the *laissez-faire* tendency, but it implies warfare, the waging of battle against active forces of greed and selfishness. At this very moment, when the din

of patriotic enthusiasm still fills the air, we already have the proof. Hardly was the ink upon the armistice dry when a scheme was plainly disclosed, so cynically regardless of every single thing for which men have suffered and died in this war, that only the most sinister motives can possibly underlie it. Its aim is the total destruction of every forward-looking aspect of a great governmental undertaking, to the obvious end of affording a lucrative opportunity for personal gain. These vultures, with the sure, keen scent of their obscene hovering species, smelt the appetizing carrion that was to be, while it still walked alive. With patriotic flapping of their filthy wings, they soared magnificently in the company of those whose souls were white, their sharp eyes watching all the while without a waver the approach of the hour of dismemberment. It is such as this that is to be fought, not only now but until the coming of a day we cannot foresee. It is to be a part of the army that must wage this battle in the days of peace, a working part, not fluttering on the outskirts, that I would see our young men prepared.

I know there are difficulties; there is one plain enough. To accomplish any such program as I have so hastily sketched, you have got to have as teachers men of special and perhaps unusual attainments and experience in greater numbers. That means money. I count all that as nothing. Once you have clearly made up your minds to what you propose to do, and are able as clearly to present it, the rest will follow.

There is the difficulty, a very great one, of the arrangement of available time. As to this, I can only suggest that if the promise of such a plan is great enough—and I do believe that it may well be—then the arrangement can somehow be devised.

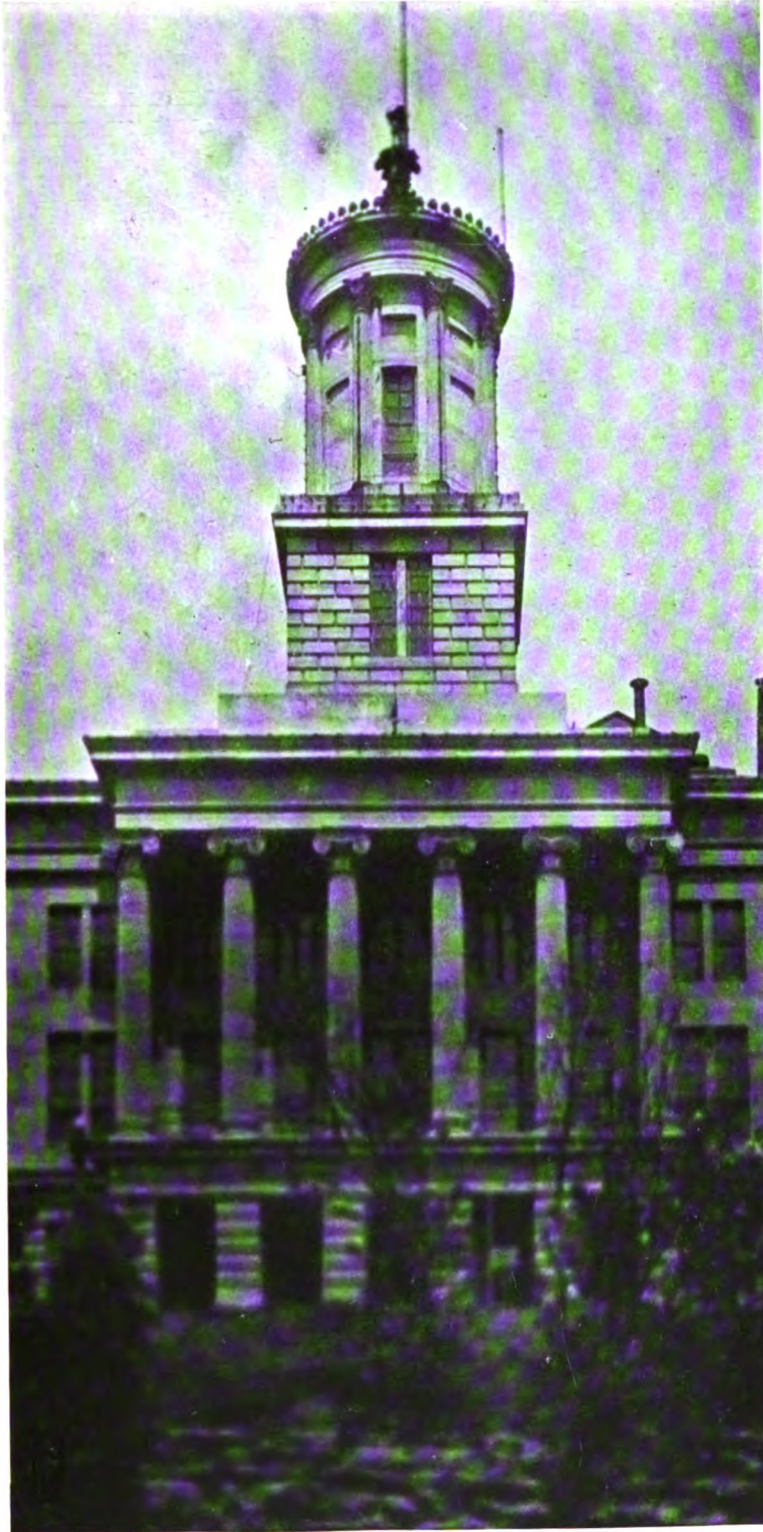
Gentlemen, all about us we can see a people rushing to avoid the lessons inculcated by the most searching, terrible experience our civilization has ever known, striving to forget, to dodge their responsibility, to go back unscathed to the old selfish, thoughtless ways. We may, perchance, be able in a measure to do this for ourselves; but, by all we hold dear, let us not close our eyes to what lies before the coming generation, not shirk our duty to those who must pay the bills run up by any incompetence or cowardice we may show.



DOORWAY OF RUINED HOUSE, NASHVILLE, TENN.
Photograph by Ben J. Lubschez



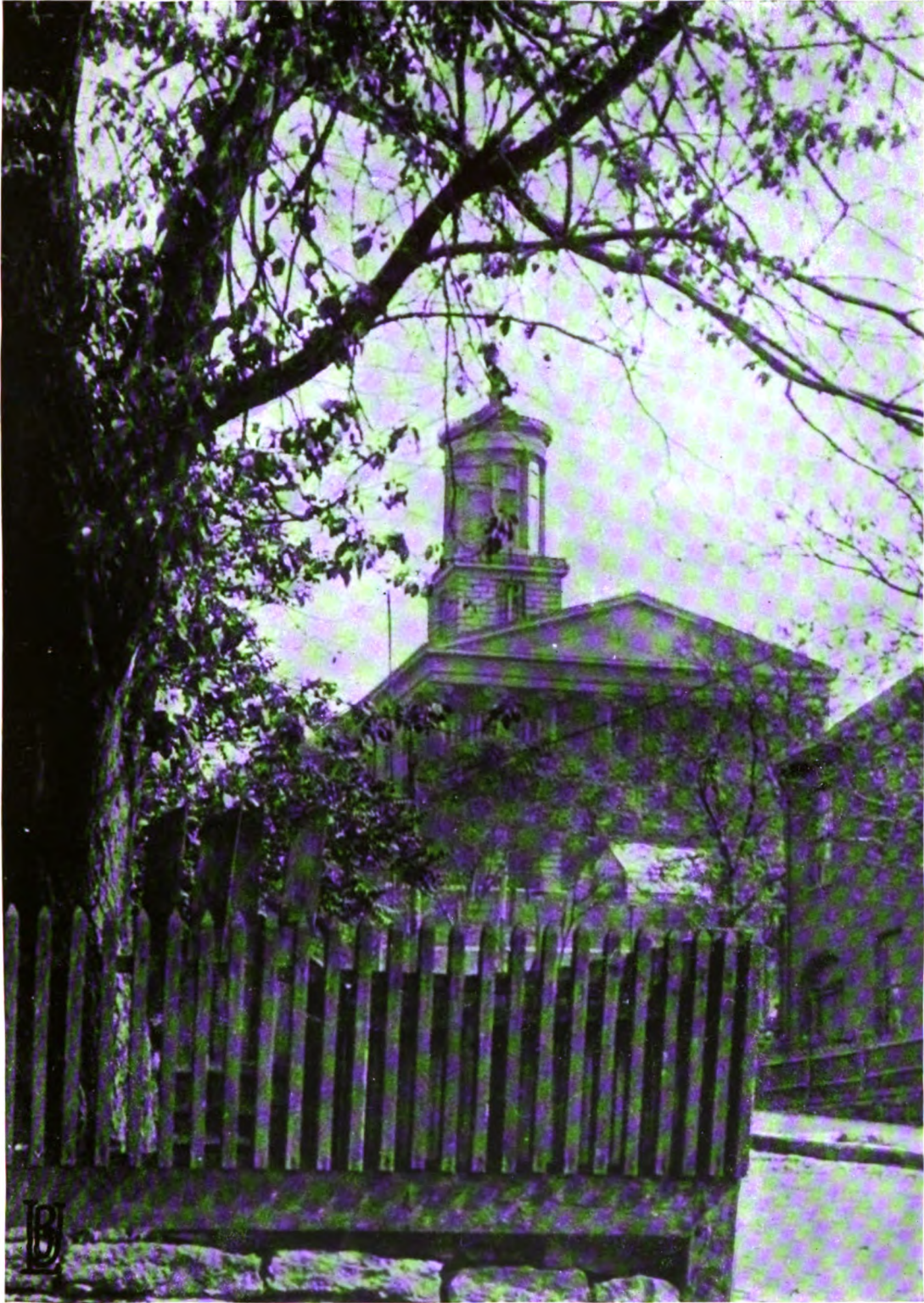
AVENUE OF CEDARS, THE HERMITAGE, NASHVILLE, TENN.
Photograph by Ben J. Lubschez



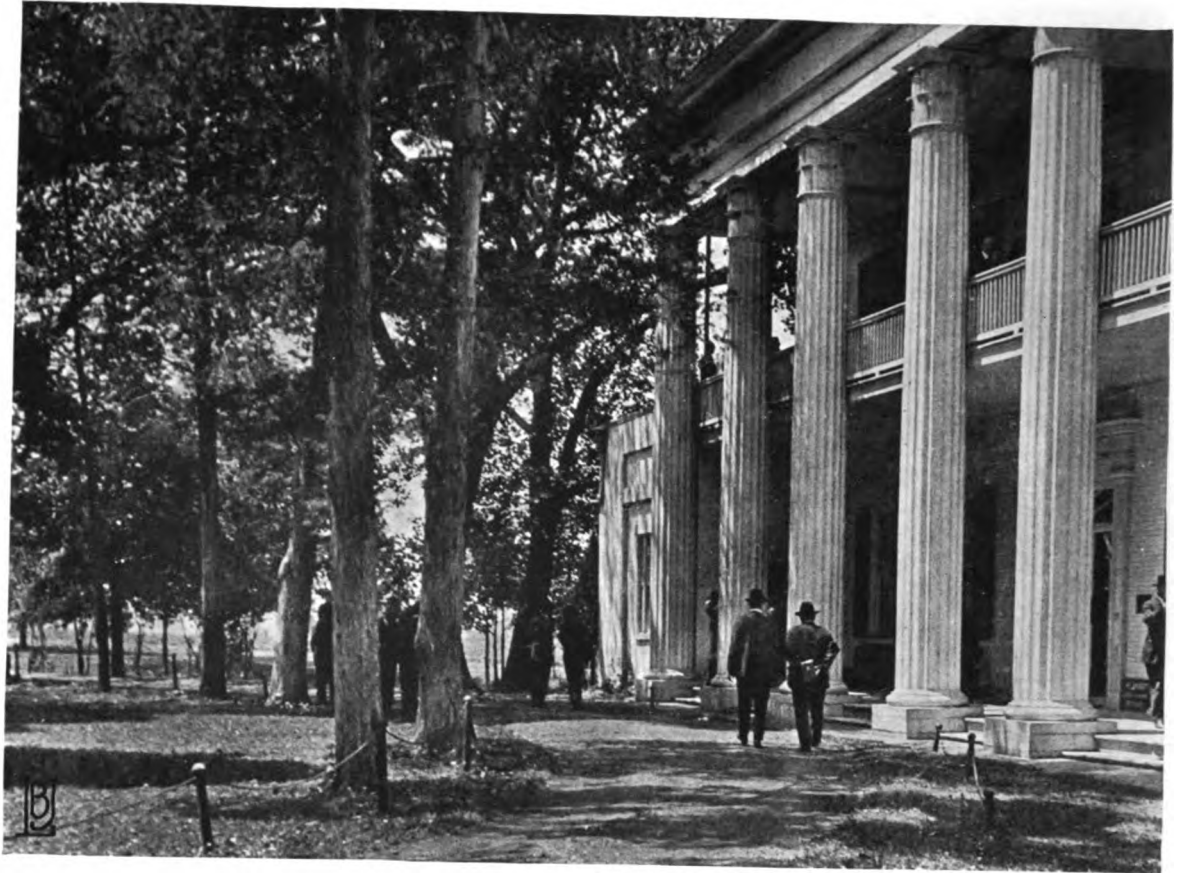
SIDE PORTICO OF THE CAPITOL, NASHVILLE, TENN.
Photograph by Ben J. Lubschez



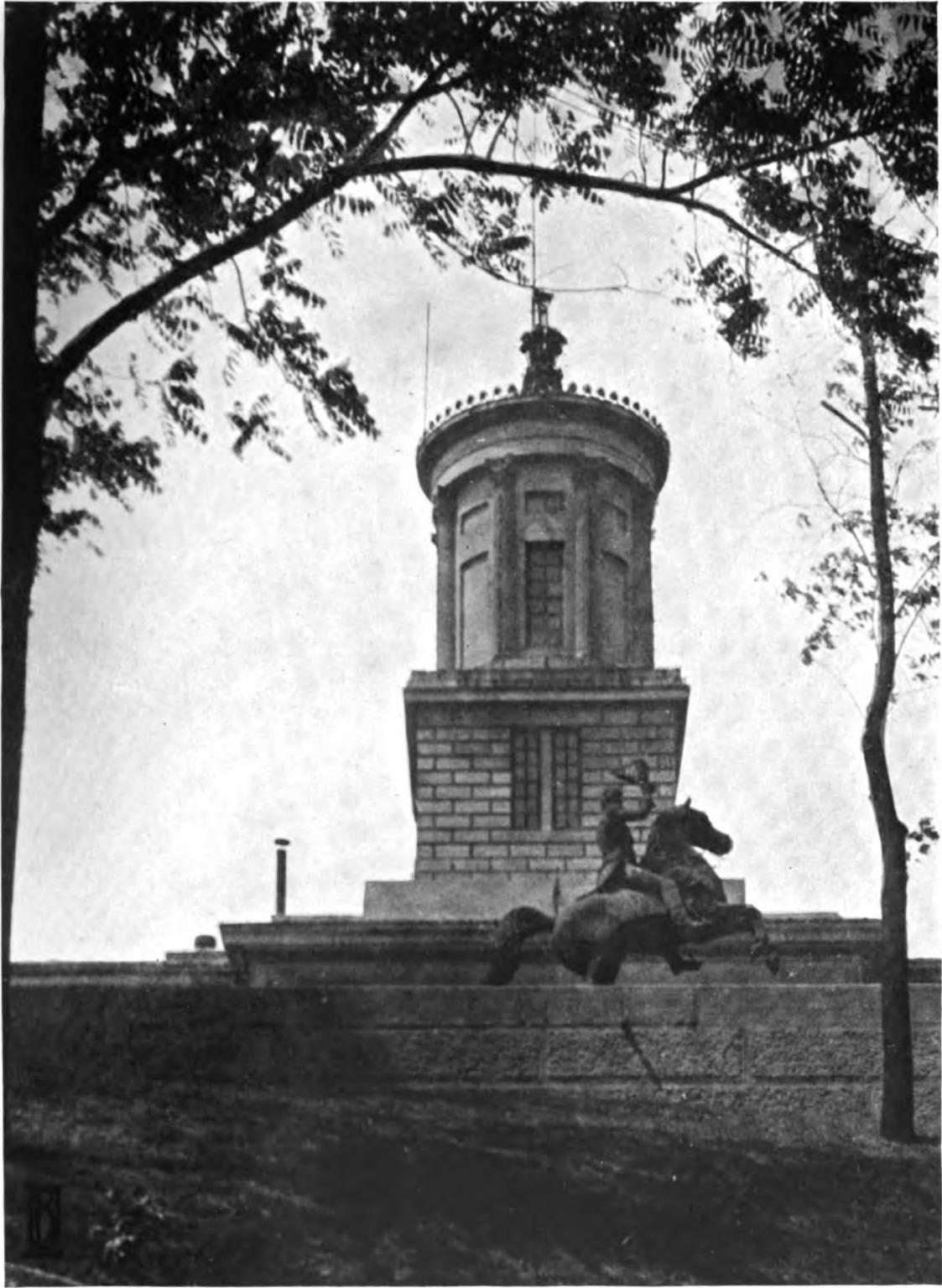
THE CAPITOL FRONT, NASHVILLE, TENN.
Photograph by Ben J. Lubschez



A GLIMPSE OF THE CAPITOL, NASHVILLE, TENN.
Photograph by Ben J. Lubschez



THE HERMITAGE, NASHVILLE, TENN.
Photograph by Ben J. Lubschez



TOWER OF THE CAPITOL, NASHVILLE, TENN.
Photograph by Ben J. Lubschez



PORTICO OF THE HERMITAGE, NASHVILLE, TENN.
Photograph by Ben J. Lubschez

A Solution of the Housing Problem in the United States*

By MILO HASTINGS

PART I. THE SOCIAL PROBLEM

THE housing plan here offered has obvious kinship with the English garden city. It is differentiated from the English plan to adapt it more closely to American conditions and needs.

The American possesses no overwhelming fondness for ancient and established forms of dwelling architecture. If, in our house-building and community-planning, any practical comforts and modern conveniences be sacrificed to the ancient European cults of rustic beauty, the American tenant is going to repudiate our efforts as mere artistic foolery.

The American does possess a contrasting fondness for labor-saving inventions and "modern improvements," and places a value thereon out of all keeping with European standards. He wants things up-to-date, and is willing to pay for modern features of housing conveniences and comforts out of all proportion to their actual cost. In the Flagg workingmen's apartments, in New York, the belated installations of baths permitted a raising of the rents on a scale that paid a hundred per cent on the cost of their installation.

Nor do American working folk, and particularly the women, take kindly to those ancient ideals of thrift and economy that, in song and story, hover about the lowly peasant's cot. They want neither cot nor cottages, but houses and bungalows. They do not want to carry market baskets nor sit before open fires. They like to get out and travel and go to shows. They want an auto and a garage; they want hot water and steam heat, a telephone and goods delivered—preferably "in the rear."

Since the American scale of values is different, we should translate the lessons that Europe has to teach us into American terms, and plan our housing so as to give the American the greatest possible measure of those things he wants and is willing to pay for.

The American does want a private house and

suburban or country life; but he also wants city conveniences. As things now stand, it is difficult to give him both at a price he can pay. Our problem is to devise a plan that will give the worker a private house and a garden, together with coöperative utilities and services, and at a total cost within his means.

This is an end that cannot be attained without some sacrifice of the picturesque freedom of the plotting of the present conventional garden city. There is no intent here to discard the esthetic values of artistic irregularity, but only to compromise the ideals of the landscapist with the practical limitations of the engineer.

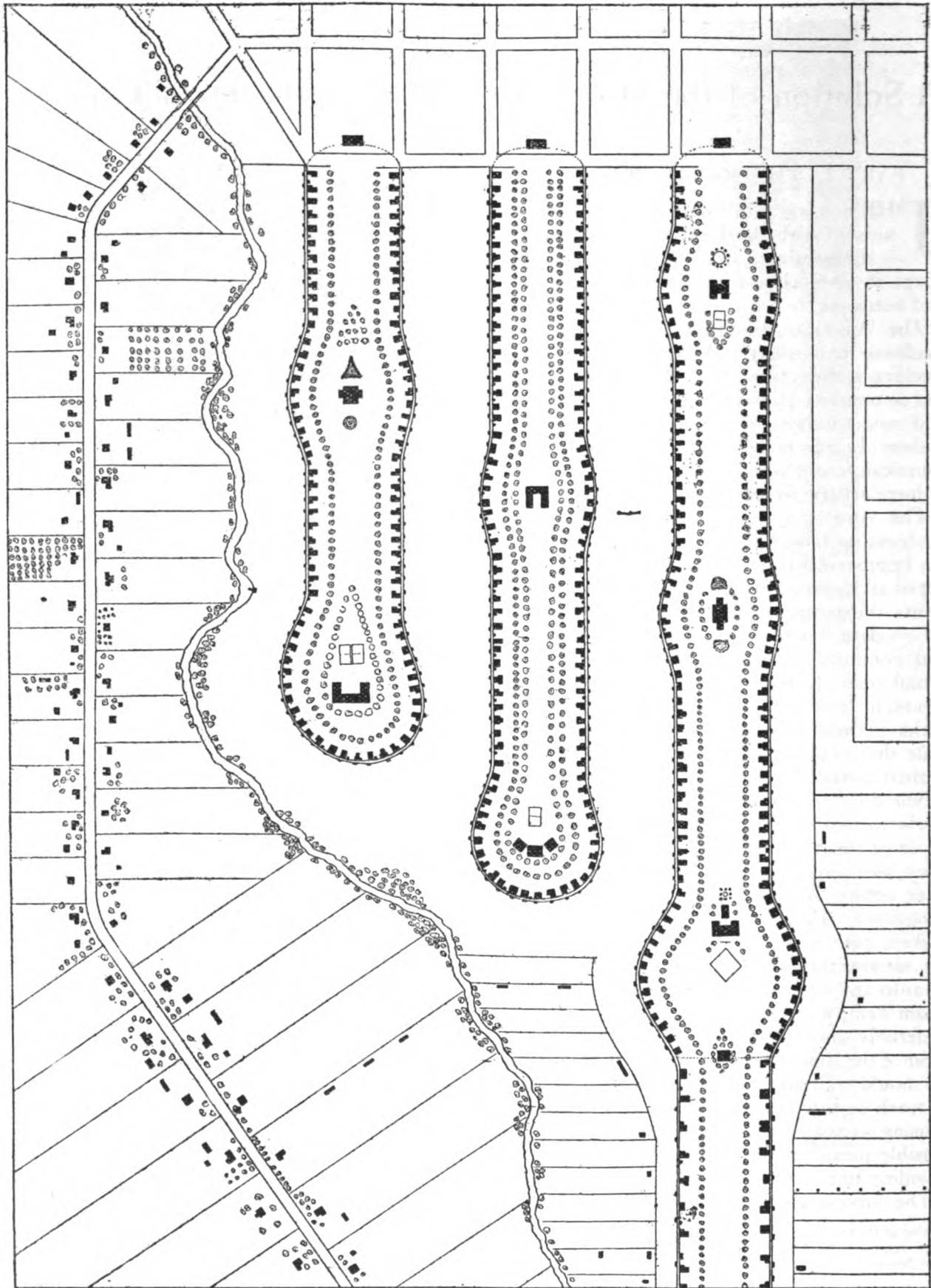
A Street That Functions Efficiently

The varied ends sought, and proportioned to American tastes, can be most economically secured by building a series of detached houses along a line of service utilities. Our present street is such a line, but it is not an efficient line. If it be narrow, or the houses be set too near the street, it is cramped and ugly. If it be wide and spacious, and the houses set well back, it is unduly expensive, and the total amount of pavement and total length of digging and piping to carry the utilities into the house is too great.

We can gain economy by a specialization of the functions of the street. We can broaden the street that is to be the front of the house until it is no longer a street but a parkway. We can concentrate the heavy traffic and service utilities at the rear of the house until it narrows down to the one-way vehicle track made of two concrete rails with concave surfaces fitted to the gage of an ordinary motor vehicle. The construction of this "auto railroad" will require but a small part of the material needed for the modern street, yet the service rendered will be more efficient.

Paralleling this track, and constructed as a part of it, will be the line of service-pipes and cables. The minimum list will include the water-line, the sewer, gas, telephone, and the light and power circuit. The sewer must be buried in the ground and sloped for gravity flow.

*One of the two winning theses in the competition instituted jointly by the Journal of the American Institute of Architects and the *Ladies' Home Journal*.



THE COMMUNITY PLAN SUBMITTED BY MILO HASTINGS IN CONNECTION WITH THE WINNING THESIS PUBLISHED IN THIS ISSUE, SHOWING THE U VARIATIONS, THE BACK SERVICE STREET, THE PROVISION FOR REAR GARDENS AND THE OPEN AREAS ON WHICH ALL THE HOUSES WILL FRONT

A SOLUTION OF THE HOUSING PROBLEM IN THE UNITED STATES

Water-pipes must be buried, not only to prevent freezing but to cool the water in summer. Where no heating-line is to be provided, it may also be necessary to bury the gas-pipes to keep the collected water from freezing. The wire cables may be located in a groove on the side of the concrete rail, and so be more available. But if central heat is to be provided, a conduit made of sections of asphalted concrete boxes may be placed above the ground-level. By this plan it will be possible to keep insulation dry and there will be less heat lost to the air than to the better conductor, the damp ground. Where such a surface conduit is used, all pipes and wires, except water and sewage, may be carried therein. This heat-carrying conduit will pass just beneath the floor at the rear of the house, and, if there be a garage, the heating conduit may also pass through it just inside the rear wall. Thus, the heat radiation from the main will not be wholly wasted.

Rear Streets versus Front Streets

This compact service-way should be located at the immediate rear of the houses and the houses aligned thereto. This line need not be rigidly straight, but it should avoid unnecessary windings and sharp turns. While rigidity of alignment in the rear is essential to efficiency, in the front there is no rigid house alignment. We avoid the straight and narrow way of the city street, not by winding and curving it, but by substituting for the street a sufficiently wide parkway to permit of variations within itself.

The rear service-line is for utility traffic. It makes direct contact with the rear room of the house. Here all goods may be delivered into a trap or chute without the deliveryman alighting from his car—often without his stopping. Garbage and waste paper, set out through a wall-trap, are collected with like dispatch. The car on such a track needs no guidance, hence the extra man now often required may be dispensed with. Such superior delivery to the house, in addition to the direct economy, will stimulate all manner of coöperative effort. Functions like baking and laundering should, in such a community, become completely centralized.

The community kitchen, which has made great strides during the war, requires only a more efficient system of house-delivery to make it a permanent service in the industrial community.

With all modern utilities in the home and this aid toward the centralization of the few remaining functions of housekeeping, women will be so freed from home labor as to greatly increase their capacities for industrial labor outside the home. While woman's participation in industry is not without its evils, the nation must find other ways of correcting these evils than by refusing to accept labor-saving methods of lightening household drudgery. Opposing the centralization of housekeeping functions is quite as stupid as the opposition once shown to linotypes and grain-binders.

This tradeway or service-road is not for beauty but for utility. By making it virtually an automobile railway, speed and service will be enhanced. By more efficient transportation for goods, we make possible a greater decentralization of population and gain access to a greater area of land for recreation and cultivation.

As we cannot have service without an intrusive proximity to the dwelling, we want this service concentrated so that it can be better hidden. The rear of the house, and often a garage, together with a garden-house and toolshed, will half enclose this line. We have but to connect up these buildings with a few concrete posts, stretch a substantial woven-wire mesh, and plant climbing vines, and our service right of way is fenced off as securely as an English railway. The house door into the traffic-way, required only for the delivery of large articles, can be kept bolted from the outside. Thus child-life will be safeguarded and speed may be unrestricted. Access to the garden lands in the rear would be by means of a platform extending from an upper porch out over the narrow service-way and an outer stairway descending into the garden space beyond.

Gardens, Parks, and Play-Spaces

For commuting suburbanites or industrial workers, the garden-patches should not be fenced. A narrow strip near the house may be reserved for outbuildings and for a few fruit trees or perennial crops, like asparagus. Leaving the remainder of the garden land unfenced will permit of economical coöperative plowing. Division lines may be determined by sighting through between landmarks, and thus wasteful and weed-breeding fencerows may be avoided. Where the holdings are of larger size, a nearby

strip can be left for coöperative plowing and the land beyond be fenced for chicken-yards and cow-lots. In such developments, many tenants would require the smaller garden holding only, and the larger space beyond could be leased to those desiring them.

As the concentration of houses on the service-line is essential to gain coöperative utilities, so the extension of the land in the opposite direction will gain greater areas for cultivation.

Our logical housing unit will be formed of two approximately parallel lines of houses. Connected at its outer end by the return bend of the service-line, the unit will form a U. At the open end of this U is the established city, or, if all things are to be new, the industrial and trading area of the new city. The inside of the U will be parked throughout and traversed by no heavy service traffic but only by such walks and light roads as are needed for recreational purposes and private cars.

Within this U, with its park-like and non-commercial environs, may be located schools, clubs, athletic courts, and other social and recreational institutions. But the social value of this land will not depend upon its elaborate equipment; its primary purpose is to give a sense of room and freedom and to provide ample play-space for children. If it be nothing more than an alternation of groves and grass lands, with an occasional school, it will well serve its purpose of giving the residents a free recreational common, which is often absent, even in suburbs where all land except the street is fenced off as private grounds.

The length of this U is indefinite. Where the land is available for possible later expansion, the outer end of the U should not be built up with houses, but should merely carry the service-way and utility pipes which may be moved further out in case of expansion.

Economies in Construction

The construction of the houses themselves, being planned and built in considerable numbers, will gain the economies due to wholesale building operations. In the recent Australian rural communities these wholesale economies are reported to have reduced the housing costs to one-half that of individually built houses. In the present plan, the coöperative utilities will necessitate a standardizing of heating equip-

ment and similar fixtures that will show the usual economies of standardization. Our progress in pouring cement houses indicates further possibilities of economy. Such economies necessitate similarity in the finished houses. We accept similarity in automobiles because of economies, and there is no reason why we should not accept it in houses. But if the whole effect of the house and its environs is cramped, monotonous, and ugly, we can pay too great a price for economy. The solution is to accept a larger degree of repetition in house design and fittings where the economies are greatest, and to secure a compensating variety and beauty by the freer use of land in the parkway.

Decentralization of Population

In the model English garden city of Letchworth there is a population of 35,000 on 4,500 acres, or about two-thirds of an acre per family. And yet, in Letchworth, twelve houses are permitted per acre, which, with a lot 150 feet in depth, would mean only 24 feet in lot-width. In this much-famed English model, the cramping of houses is thus permitted in the town, which is then surrounded with a belt of municipally owned farms. The outermost acre of Letchworth is only several miles from the city center. Such a distance can be negotiated by a jitney bus in ten minutes at a cost of two or three cents per passenger.

We can well afford to discard this Letchworth farm-belt and distribute our people over the whole of our land. After allowing for the space for industrial needs, we will have a land area a little better than a half an acre per family. This must be proportioned between the park space, the building and private yard, and the garden space in the rear. The houses on the two sides of the U contribute equally of their allotted space to the central parkway, which should be at least 200 feet wide. Allow another hundred feet for the private lawn and house-site and 200 feet for the garden. The total depth is thus 400 feet, which will result in a lot-width of 60 feet.

Central Heat and Hot Water

This is a far greater decentralization than is gained in the English garden city, yet in order to have central heat for every house, we have only to provide 60 feet of heating main. We have not done this thing, but the reasons are

A SOLUTION OF THE HOUSING PROBLEM IN THE UNITED STATES

not found in the textbooks of our heating engineers, but merely in our unsocial planning. The distribution of heat and of hot water for bath and kitchen use may be combined. Such water could be rapidly circulated by pumps and the pressure kept up, if need be, by a relay of electrically driven centrifugal pumps out on the line. The cost of power for such forced circulation should be more than met by the economies in coal cost from more efficient heating at the central plant, and thus yield as a net gain the advantages of the cleanliness and comfort secured and of labor saved by a hot-water supply and the hot-water heat within the home.

The original cost of our conduit and its piped utilities will be offset by the elimination of individual house-heating systems and the saving of the cost of a cellar beneath the house. The present uses of the cellar or basement are for the location of a heating plant, for a place for keeping food cool in summer or to prevent its freezing in winter, and, in some modern cottages, as a location for the laundry. In the present plan none of these needs appear.

Where heat may be piped, so can anything else that flows by pipe or wire. Sixty feet of vacuum pipe will cost less than an individual vacuum sweeper. Why should the worker's wife sweep with a broom and dust with turkey feathers when the expenditure of a few cents a month for electric energy will save her an hour of work a day and rid the house of dust-carrying disease germs? Again I am constrained to believe our nineteenth century sociology and not our twentieth century engineering is at fault. Why should we go on building workers' houses with a hot-water tank on a kitchen range and put bathing on an uncertain schedule?—for men will bathe where hot water is always on tap and will not where they have to go down in the kitchen and fire up and wait an hour in order to get a hot bath. Why should we pile up the responsibilities and labor of decent living when it is cheaper and easier to make living easy?

We always approach this problem of housing from the standpoint of an eleventh-hour rush to get roofs over the heads of a multitude of workers that the sudden growth of some great factory has herded into insufficient quarters. For such needs, a scale of density of population like that of the garden city is as near what we want as we can now determine it. But, as our

social control over industry grows more intelligent, we will cease to let these huge factories dictate the density of our living and begrudge us more than this arbitrary minimum of soil.

The Workman and the Land

We have a presentiment—and all Utopians that ever wrote have strengthened it—that in the future more of us are going to possess land-holdings somewhere between the 160-acre farm and the $\frac{1}{4}$ -acre garden, and that agriculture and industry will be more closely interwoven than now. Time and intelligence now at work will surely intensify agriculture and teach us to grow more food from less land; improved transportation will bring us closer together in minutes and in dollars, though farther apart in miles; the distribution of social utilities will make life comfortable, though removed from the city throngs.

To accomplish these ends more speedily, we must concentrate our houses on a line to gain the advantages of better transportation and more coöperative utilities, and extend our land back in strips at right angles from the line of houses to gain access to more soil. The maximum of house concentration is the continuous house of the Chambless Roadtown plan; the minimum is the present arrangement of farm-houses.

There is no absolute standard for the determination of compromises between these extremes, but the range included by the plan here offered (the essential idea of which the writer published in 1909) is that beginning with the detached house and ending with the distance at which it ceases to be feasible to pipe water. Between these extremes I believe may be found the most acceptable and economical housing plans for industrial population in areas where it is feasible to provide gardens, and also for those intensive agricultural communities where vegetable, fruit, and poultry farming are the chief industries. Within this range of population density will be included the equivalent of our present suburban and village life and all of our plans for agricultural holdings in industrial regions. As we repudiate our present congested metropolitan life, and as the wasteful processes of extensive agriculture are restricted, this middle ground in the ratio of men to land may come to include a major portion of our whole people.

Picture now our plan applied to a semi-agricultural development with holdings of from 2 to 10 acres. The houses can be spaced from 100 feet to 100 yards apart. We shall cease to fence in our tradeway and shall probably lose our piped heat and vacuum, but we can retain a superior delivery service and our electricity, gas, and water—perhaps the latter with enough capacity for garden irrigation.

Our little lands will extend for 1,000 feet or so to the rear. The residents who are otherwise engaged will retain only a nearby garden-patch and sublet the rear portion of their holdings to land-loving neighbors. If our community has retained the U formation, there will be from fifty to a hundred families to the mile, and we may have good schools, social clubs, and coöperative recreational facilities. With auto bus service our people may go 5 to 10 miles to work or to trade with no undue expense or loss of time.

But this last picture need not mark the maximum of decentralization. We can give up the central parkway, combine our pipe- and transit-way with the free vehicle road, and alternate our houses on the opposite sides, place them 100 yards apart, and carry our tilled lands back a mile, and our meadows, small grains, and pastures another mile, and we will have an average farm size of 600 feet by 2 miles or 150 acres, which is entirely too much for the farmer of the future. Far from being inefficient, the long field of such a farm would be better adapted to economical cultivation than the square field, for less time and space are wasted at turns. The square survey of American farms is unadapted to an age when the delivery truck, the pipeline, and the power wire mean more to men than the vaunted isolation of feudal castle or plantation home. By applying our principle of the line concentration of living to our farm-survey, we would secure, economically, good roads, electric light, rural delivery of goods from city stores, a bus line, water, sewerage, and gas to cook with if we want it, and neighbors just out of earshot.

So much to show that there is really no limit to the application of the principle, but the immediately practical application is not to general farming, except, perhaps, to newly reclaimed lands. The most urgent need for housing is for our industrial workers; and our aim should be

to give them as much land as they will use, and give them also a detached and private dwelling, and yet deny them none of the utilities available in apartment or flat.

There is a time, on Sunday afternoons, when we appreciate curved drives and winding paths, and for our play-place and playtime we set aside the parkway in front of our houses, but, in building the houses and supplying them with service, mere beauty must compromise with efficiency. The aristocrat lives fronting on the park and has all goods delivered in the rear, and so can the democrat if he will quit being an anarchist in his town-making and house-building.

PART II. THE ECONOMIC METHOD

The Menace of Landlordism

Our existing system of American land-tenure grew out of our plan of turning over our public domain on easy terms to land-owning farmers. By so doing we thought to establish a sound and enduring democratic tenure. The result of this system, in its present state of evolution, is that the modest fortunes of a large portion of our people are founded on the unearned increment from the rise in the price of real estate, and hence it is extremely difficult for us as a democratic people to now repudiate the system.

But our much-lauded and fondly worshipped land-tenure system is not an enduring one. It is the favorite criticism of misunderstood socialism that if we divided the world's wealth equally today it would be unequally divided by tomorrow night. That is what is happening to our American land system, for our intended democracy of private ownership, founded on homesteading, is gradually but surely being lost through the irregularities of inheritance, the rise and fall of fortune, the increase in land-values and the big fish eating the little ones. Landlordism and tenantry is the sure but inevitable outcome.

We boast that our own democracy means, not equality, but equality of opportunity. But there can be no equality of opportunity for the newborn in a nation where lands are no longer free and where a portion of the population live off of the socially created rental values of land.

[NOTE.—For the statistics covering the growth of landlordism, and the diminution of home ownership in the United States, the reader is referred to "The Housing Problem in War and in Peace," published by the Journal of the A. I. A.]

A SOLUTION OF THE HOUSING PROBLEM IN THE UNITED STATES

Government Control Necessary to Prevent Congestion and Slums

We can go on dodging the issue and leaving the disinherited unborn to right it as they may. But while we may not be ready to apply a land reform to our general farm holdings, the time is at hand when the land speculator can no longer be allowed to congest our cities and absorb the surplus earnings of our workers by the increment of land rentals. If we would extend towns and cities or build new communities on a socially conscious plan, there is no use going about the business except on some basis of federal, state, municipal or community land ownership which will save for the community the wealth the community will create.

Under the urge of war, England, goaded by a land situation worse than our own, achieved a sudden radicalism which goes further than we may desire to go. The land for English industrial war towns was not only condemned at pre-war prices by the Government, but provision was made that adjacent lands might thereafter be condemned at pre-war prices. A fairer plan would be to give the public agencies active in housing enterprises the right to condemn the lands needed at present values, and the right to condemn further lands when the need arises at values to be determined by their worth at the time the project was founded, plus such ratio of increment in value as the regional or state records show as having accrued in lands of similar type but not effected by proximity to industrial communities.

Who Shall Build Our New Communities ?

But we must not only decide what to do but who is to do it. Town-planning by individual private enterprise is ruled out because it breeds congestion and slums. Town-planning by private development companies may be fairly satisfactory for the middle-class suburbanites, but it has utterly failed to properly house our workers. Town-building by industrial corporations, who are forced into such enterprises by the necessity of housing their workers, is somewhat more efficient and is the prevailing method in present-day building. Such corporations employ the best of our town-planners and small-house architects, and these men work from the employer's point of view. Comfort and efficiency for labor

they consider. But to build up communities wherein the landlord and employer are one and the same corporation is to accentuate and perpetuate our present overgrown industrial feudalism. Democracy will not thrive in these corporation towns where the water from the taps and from the eaves is flavored alike with steel or rubber, or shredded wheat biscuits, or a certain brand of soap.

But somebody must be the landlord; if not the private speculator or the industrial corporation, then it must be the government. But what government? Federal, perhaps; state maybe; best of all, the local government of the district. The community should own itself. The unearned increment must pour into some pocket, and if it be the pocket of the community, then taxes may be deleted and the community enriched beyond the dreams of publicans.

For the expansion of existing municipalities, the right of the eminent domain of the city must be extended, not only to its streets and rails, its pipes and wires, but to its houses, yards, and gardens. Nor should this expanded right of domain be confined by existing corporation limits. If we would solve the house problem, we cannot wait until the adjacent rural region becomes half urban; we must have power to reach out into rural territory and do our planning and start our building on fresh ground before private suburban development ruins all hope of doing it well.

The Need for Broad Planning Programs

The sharp political line of demarcation between city and country is a serious difficulty in the development of semi-rural communities. No such line exists in the nature of social or industrial life. As it is at the very point where town meets country that our greatest opportunity exists, we will need some well-wrought plan of coöperation between the municipal and the adjacent rural government. Such developments cannot always be left to mutually jealous local governments, but will require oversight by the state to permit of harmonious town- and country-planning. In such localities it may prove necessary to create new communities occupying a portion of both the old city and adjacent rural territory. Such areas might be incorporated in

the old city, with local autonomy in the business of land proprietorship and housing control.

Our governmental authorization of an eminent domain for housing must also be extended to new communities that may be created apart from existing cities. For the initiation of such new efforts we cannot depend upon the initiative of centralized governmental authority. The initiative is more likely to come from enterprising citizens or industrial leaders. But the overseeing government must have power to check and supervise such ambitious efforts. As the Reclamation Service now selects from among endless local claimants the regions to be improved and made into farms, so we must have a state or national agency which will pass upon new town projects and extend authority where worth is found.

Money and Credit

In securing the funds for building we will have a like need of such aid from the larger political organization. In the reclamation projects, the acquisition of the land is the smaller half of the problem. The Government finances the improvements and secures the return of the funds invested from the wealth thereby created. In like manner, the nation or state must finance the public utilities and workers' dwellings of new industrial communities or we will make slow progress with our housing problems.

This is a safe investment for Government credit. To issue Government bonds to drain swamps or build cities is not to pile up debts like those of war, but is merely a governmentally directed coöperative investment in real estate securities. Private capitalists would otherwise finance these ventures on speculation—some to make and some to lose. Through the agencies of Government credit, individuals pool their capital, their gains and losses, so that all will make 4 per cent. As long as we need houses to make our workers productive, bonding the Government to pay for these houses means adding to national prosperity.

Self-owning Communities

The land bought, and the houses built by Government funds will be owned by the community, the Government holding the mortgage. Before the war we would probably have sold out the homes to the workers on easy payments

and so made trouble for the next generation. But the war has increased our social reach into the future, and we can now advocate a permanent community ownership. The Government bonds may be retired in twenty or fifty years—the time is not particular, though the community should take the ultimate risk of its own life or death, for it is the community that will be responsible.

The community will own itself and will rent its houses on long-time or indefinite leases to its citizens. The rent figure will include interest on the cost, the upkeep, and operation of the town as a whole, and, until the bonds are retired, the sinking fund for such retirement. The citizen will own his own home for all the practical purposes of vine and fig tree, and, if you please, of an ancestral estate. The most prickly thorns on the rose of inheritance are removed when we do away with private property in the unearned increment.

Whatever be the relations worked out between our complex national, state, city, and community organizations, the new communities that are based on the community ownership of land and houses should have the largest possible degree of local autonomy. The political problems of such a community are different from those existing under the old system of land tenure, and the affairs of such communities are not likely to be fairly administered by outside officials influenced by the old system. The new communities will form centers of a more social democratic life. If they prove efficient they will grow and expand, and so they in time recast the social structure of the whole nation. Present danger lies in subjecting them too closely to outside paternalistic influence and thus check-mating their opportunity to prove their actual worth in competition with the old system based on the private ownership of land.

[NOTE.—Among other references, the reader's attention is called to the new Housing Bill in Canada, a summary of which appears in this issue; to the new Housing Law in Australia, likewise summarized in this number, and to the pending law in England, of which many references have been published in previous issues of the Journal. The English Law is not yet on the statute books, and it is generally conceded that it will be wholly ineffective in meeting the present grave crisis, unless it be accompanied by a Land Acquisition Act that will permit the taking of land at its pre-war value, and not compel the Local Authorities to buy it at its present greatly inflated value. EDITOR.]

Post-War Committee—English Opinions

IN THE last issue of the Journal we had occasion to call attention to the Professional Problem in England, where the future of architecture is being discussed by the organized societies, by the practitioners, and in the press. Of particular interest is the contribution by Mr. John Murray, F. R. I. B. A., made in a letter to *The Builder* in which he takes occasion to chronicle the opinions of a number of the past-presidents of the R. I. B. A. These were collated in the year 1892 by Mr. William H. White, F. R. I. B. A., and secretary to the R. I. B. A., in an essay entitled "The Architect and His Artists." From this essay, written in 1892, Mr. Murray quotes as follows:

"The architect is still tossed upon a sea of precedents, still a prey to the newest archaeological affectation and phase of artistic fashion—not a faithful recorder of the spirit and history of his own time; and at the eleventh hour of a long period of historical revival, he is agitated by counsels which, if accepted, would place him on a level with those whom he should employ as his subordinates. Here, perhaps, I may be allowed to explain that in treating the subject of the architect and his artists, I am not using the word 'artist' in the exclusively æsthetic sense in which it is now understood, but in the sense of a handicraftsman.

"In western Europe, during the mediæval period, the names of artists engaged in the construction and adornment of cathedrals and other buildings have come down to us, but the architect as we understand him is conspicuously absent or non-existent.

"There have, however, existed such offices as architectus and ingeniator, or ingenarius (corrupted to engineer) supervisor (corrupted to surveyor), magister operum, and clericus operationum, devizor, master-mason, and other appellations distinguishing persons who had charge of the execution of such buildings.

"In Paris and France generally the architect is the sole and supreme master of the work, and his relations with the master-workmen are constant and direct. He makes his contracts, not with one capitalist, but with a dozen master-tradesmen, who each work under his direction and who look to him only for orders to fix materials and assist each other at the several stages of the work.

"This fact renders it essential for an architect in France to be a constant visitor on the works with the superintendence of which he is entrusted; and I have known architects who, if their buildings were in Paris, visited them daily, or, if at a moderate distance from the capital, twice or three times a week. The first time I spoke to Viollet-le-Duc was in 1860, on the works at Notre Dame, which he then visited daily at 5 P.M.; and the last time I spoke to Louis Duc was in 1878, on the works of the Palais de Justice, where he was daily engaged with his assistant architects and draughtsmen.

"The variety of those sciences and the multifarious duties which, according to Philibert de l'Orme, pertain to the architect, have necessarily encouraged the rise of subordinate artists, each with special attainments, and each able to afford him assistance in his practice. It was quite impossible for one man to combine in his own person all the arts and sciences which the ancient architect was supposed to master; an ordinary lifetime is not long enough to acquire them. If one dared to advance a proposition that the architect whom Vitruvius drew was an ideal representative creation—the genius of a trained band of workmen—and not an individual, the practice of the Middle Ages would serve to support it, and that practice was founded directly on Roman precedent. During this century—indeed, ever since the Reformation—no individual has pretended to the possession of practical experience in even half of the arts and sciences which constituted architecture in its ancient sense. British architects, during the two preceding centuries and in the early years of the present one were largely indebted to foreign draughtsmen for the design of some of their best works; and they have invariably been what are now known as general practitioners. They were certainly not accomplished or effective draughtsmen. The abilities in this respect of Sir Christopher Wren, who was Surveyor of His Majesty's Works—the Office of Works of his time, as Mr. Mitford once happily called him—would not command much respect at a Royal Academy Exhibition of the present day. No one, in fact, supposes that Wren executed with his own hand the drawings prepared for the design and execution of the numerous edifices with which his name is identified. Yet, even to the practised eye, all those edifices possess an extraordinary family resemblance, an absolute harmony of conception; and the majority of them are excellent examples of architecture. If one cross to Paris, to examine the Porte Saint-Denis, of which François Blondel, who began the practice of architecture at the age of forty-seven, was the architect; or the dome of the Invalides, by J. H. Mansart, who built the Palace of Versailles and a host of other state works, it is similarly difficult to believe that such men made the drawings for the design of those buildings. It is certain, moreover, that Sir William Chambers was not what is called a draughtsman, though Somerset House, the finest building of the kind in London, is known to be his masterpiece. All such men were surveyors in the modern sense of the term, and liable to be described by Mr. Norman Shaw as 'commission agents.' Hence there is nothing extraordinary in the assertion that there have been persons—surveyors rather than artists or craftsmen—who, being men of judgment, position, and means, have so used their opportunities and so exercised their natural abilities of a scientific rather than an æsthetic nature, as to produce architectural monuments of which their posterity is proud.

"The surveyor-architect who employs, not ghosts, but draughtsmen, to make drawings for the buildings with the design and superintendence of which he is intrusted, is ordinarily a successful practitioner. Why is this so? In plain words, is his success due to the invincible ignorance

of the British public in matters of art, or to their understanding better what they really want than the artists who abuse them? His success is mainly due to the fact that many clients believe they will be better treated by him in matters of construction and sanitation than by the architect who professes to be an artist only; and a few perhaps believe that such important branches of the architect's duties will be more cheaply performed by the surveyor who does them himself than by the artist who employs specialists for the purpose.

"Others, who have more than a superficial knowledge of the business of architecture, prefer to employ an architect who is also a surveyor (in other words, Mr. Norman Shaw's 'commission agent'), because they know that he will personally plan the drainage and general sanitary arrangements of the house they wish to possess; that he will plan the ironwork required in the construction, calculate the scantlings and the weights of the girders and joists; that the specification of the works will be written under his immediate direction, and that he very probably will take out the quantities himself; and lastly, a by no means unimportant item of an architect's duties, that he will be able to decipher the contractor's hieroglyphics after the house is finished and he is called upon to settle the accounts. Further, it may be reasonably assumed that the 'architect and surveyor' will personally survey the works in progress because his tastes lie that way—that is, in the direction of the scientific and practical side of an architect's duties. But then, the design—will the architect and surveyor design as well as the architect and artist? Let those who ask that question inquire of the hundreds of admirable draughtsmen who are perfectly competent to design, and who will lend their artistic abilities even to architects and surveyors at a weekly salary of from two to four guineas. Are these men ghosts? In any case their employment is an open transaction, which will bear the light of inquiry, for they are paid by their master—the architect and surveyor—out of the 5 per cent commission to which he is entitled for works executed from his design and under his superintendence. This may not be a brilliant phase of professional life, though numerous instances may be adduced in which the taste and judgment possessed by many surveyor-architects, who are not artistic draughtsmen, have immensely assisted the æsthetic development of their draughtsman's design."

"The late William Burges, A.R.A., told me that he often designed by the aid of a draughtsman, and that he considered his best designs had been made when sitting beside his draughtsman and telling him how and what to delineate on the paper before them.

"I have frequently, when a very young man, drawn upon paper what my then master, the late John Prichard (of Llandaff) sitting beside me, indicated in words. Both these accomplished architects, from their exceptional talent as artists in the modern sense of the term, enjoyed the confidence and respect of their brethren.

"Not a word should be said against the man who, having studied architecture with the view of becoming an architect, chooses to devote his abilities to any architectural art or trade—the words were once identical. Nor need any complaint be made of the architect-trader who is pecuniarily interested in the materials which he advises his clients to use, or which, as the agent of his clients he

specifies in buildings entrusted to his design and superintendence—provided, of course, he tells his clients that he is thus pecuniarily interested."

The opinions of the presidents of the Royal Institute of British Architects from 1860 to 1891 to which Mr. Murray refers were:

Professor Cockerell, R.A., 1860. "The partisans of the scientific and the imaginative have ever been in rivalry. But the evidences of history will prove the necessity of both these faculties in the accomplished architect, and it is to the cultivation of them that the Institute will direct its impartial attention in proportion for the glory of the art and of the country."

Sir William Tite, M.P., 1861-63. "Architecture is an art as well as a science."

Professor Donaldson, 1863-65. "In speaking of the professional career I must venture to urge the importance of young men acquiring the business qualifications of practical life, as being essential to their satisfactorily realising all the fruits of the more intellectual departments of their pursuit."

Alexander J. B. Beresford Hope, M.P., 1865-67. "While architecture is an art, it is also what, for want of a better term, I must call a business or craft. (In a footnote Mr. Hope added: "Profession applies to the person who professes, and not to the thing professed.") It is this perpetual combination of the *utile* and the *dulce*, the perpetual necessity of adapting style, ornament, and proportion to construction, and of so manipulating construction that it shall not sin against beauty or detail or mass, which makes architecture the peculiarly complicated and scientific thing which it is—an art and something more than art."

Sir William Tite, M.P., 1867-70. "Our desire, as members of this Institute, must naturally, and always ought to be, to encourage architectural education. . . ."

Thomas Henry Wyatt, F.S.A., 1870-73. "It would be strange, indeed, if an institution like ours were indifferent to a scheme which practically tested the progress of that knowledge of the various arts and sciences connected with architecture, for the advancement of which this Institute was actually founded."

Sir G. G. Scott, R.A., 1873-76. "Our camps are visited by that great enemy of union and sympathy, self-conceit. I do not refer to that noble self-reliance which gives a man courage for his work, however difficult, but that lower sentiment which too often makes him intolerant of his fellow-labourer, however true-hearted, and which, by means of mutual scorn and depreciation, tends to encourage those whose innocence of art keeps them beyond its range, and warns the careless public against the employment of those who thus bear witness one against another."

Mr. Charles Barry, F.S.A., 1876-79. "We may learn from our detractors . . . how needful it is in these days of extensively diffused scientific knowledge and scientific inquiry to pursue exhaustively our inquiries into these scientific and practically important subjects. Let us welcome, then, the discussion of these matters, and it may be we shall do more thereby to add to the power of the architects of the next generation to carry out large works—beautiful works—and works distinguished by their sanitary excellence, than we ever can by the more exciting discussions whether architecture attained its maximum ex-

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cellence in the thirteenth century or in the days of Queen Anne.

"We ought to take up courageously the challenge so frequently made to us, and to discuss among ourselves—with that special knowledge we ought to possess, and which many of our members do possess—technical questions affecting the life and happiness of those whose houses we are called upon to design and arrange. It ought to be impossible to allege with truth, as is so often done, that architects care only for the æsthetical, and delegate to subordinates the vital questions of ventilation, warming, lighting, sanitary arrangements, and cognate matters."

John Whichcord, F.S.A., 1879-81. "I am induced to quote a passage from an address delivered from this chair by the first professional president who ever sat in it. I mean Charles Robert Cockerell. He was a man who was, if anything, an artist. His words, uttered twenty years ago, when the graphic side of architecture was less understood and less followed than it is at present, merit your immediate attention. 'So rare and difficult,' said he, 'is the union of the scientific and graphic departments of this art in the same person that theoretic writers are at variance as to the preference to be given to the one or the other faculty. Thus the learned Rondelet defines architecture as "a science, the object of which is to direct the operations of every sort of building, so as to unite convenience, solidity, and beauty of form." . . . Most modern architects are rather decorators than constructors, aiming, like the painter and sculptor, chiefly to please—indulging in captivating, but often impracticable designs, induced by their associations with the imaginative arts of painting and sculpture.' . . ."

"The late Professor Cockerell makes a pertinent quotation from Rondelet, who, at the very beginning of this century, described the architect of his day as a decorator rather than a constructor. Are we quite convinced in our own minds that Rondelet, if he lived at the present time, would define an architect in language more agreeable to our own sense of what he should be? Are we quite sure that the cry for art, more art, in which I admit this country was long deficient, has actually provided us with what we required?"

"Has not the tendency in England of late years been to unduly exalt the art at the expense of the science of architecture? So that architectural science is gradually becoming the specialty of men who are not, and who do not pretend to be, architects."

George Edmund Street, R.A., 1881. "The real interests of the public, and of ourselves are identical. The obligation to carry on the business side of our work upon the highest rules of honour or integrity, as between man and man, is placed in the very front of the conditions of membership of this Institute. We admit of no compromise or conditions; and the condition of membership here is undoubtedly that of working thoroughly in the spirit and traditions of gentlemen. . . ."

Sir Horace Jones, 1882-84. "I hold and think that any examination testing the scientific requirements or the maturer and readier intellectual qualities of the young architect need not militate against his artistic and æsthetic powers, any more than the scientific training, education, and examination of the aspirant for military employment

need exhaust his physical qualities, or his moral ones of courage and conduct."

Mr. Ewan Christian, 1884-86. "But no instruction that can be devised will make men architects who have not the inborn genius to become so; it may, however, make them well-instructed practitioners, and everything that can be done towards raising the general standard of knowledge must necessarily be in the highest degree advantageous. . . . That there must nevertheless be exceptional cases is also inevitable, and it is in my judgment not undesirable that so it should be. There will, I trust, always be some exceptional men, deep students and real artists, to whom the ordinary rules of examination cannot apply; men of genius to whom solitude is the nurse, who may not see with our eyes, but whose presence amongst us would necessarily be welcomed; men who, having proved their power, could not be asked to submit to ordinary rules. There are such men now, and there may be more in the future, and it would be for our welfare to include them all amongst us."

Edward I'Anson, F.G.S., 1886-87. "When I was a young man, my feelings used to induce me to think that the only really important part of architecture was art, and that artistic power was wholly an instinct—that, in fact, the highest quality of an architect was to be an artist. But, depend upon it, art power does not suffice to make an architect. The grandest effects in architecture have depended quite as much upon constructive as upon artistic knowledge. . . . I am, therefore, an advocate for the systematic teaching of art, as far as it can be taught, and of all those sciences pertaining to the theory and practice of building construction.

"The traditional custom of apprenticing young men to a practitioner, whereby they can closely follow and assist in the work done in an architect's office is, I still think, a right system, advantageous to the apprentice if he be worth anything at all; but it is far, very far from being enough, and the more often this is emphasised by those who occupy the position I have the honour for a time to hold, the better it will be for the profession, at least until the subject of architectural education is better understood than it is at present, or until people cease to repeat the formula that architects, like French cooks, must be born, and cannot be made."

Mr. Alfred Waterhouse, R.A., 1888-91. "We have heard something lately of the conflicting terms 'professional man' and 'artist,' as applied to the architect. Now, in my opinion, the true architect is both. The higher and more systematic education, which we are hoping for and getting, will train us in the efficient and easy practice of our profession—a profession which is open to all men of education, intelligence, and industry, and one in which the greatest successes will attend those to whom, further, an artistic perception has been given, and in whom it has been carefully cultivated. In speaking of an architect as an artist, I do not mean that he is to be a clever draughtsman merely—far from it. A man may be the most exquisite of draughtsmen, and yet be entirely deficient in the critical sense of what it is that makes a work of architecture beautiful. . . . The architect, on the other hand, can find nothing to do, can give no satisfactory proof of his capacity, until somebody comes to him who is willing to trust him. Consider what

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that trust is. Not only is he entrusted with the expenditure of large sums of money, but of money expended in such a way as to affect the comfort, the happiness, often the whole tone of the existence, of those who employ him. . . . The architect, therefore, has to be not only an artist and a skilled constructor, but he must learn to appreciate the value of other people's money; he must be considerate, honest, patient, firm; and, above all, he must learn in imagination to put himself in the place of his clients, so as to understand their desires."

Mr. John Macvicar Anderson, 1891. "What is the argument on which this opposition to examination is based? You will find it embodied in a memorial which was presented to the Council and in a letter which the memorialists published in the *Times* (March 3, 1891), under the title of 'Architecture: a Profession or an Art?' words which appear to me to suggest under an attractive form an entirely false issue and one which in its essence is misleading. To declare that architecture is an art is to repeat a truism. . . . It is an art and a profession. To ask whether it is an art or a profession is not only, in my judgment, to put the subject in an incomplete and a misleading form, but to endeavor to divorce two things which are indissoluble. Why, the unique characteristic of our calling is that it combines such different qualifications—artistic taste, scientific knowledge, business proficiency! We have no claim to be architects in the true and full sense of the word unless we are artists, able so to dispose and to clothe the materials with which we have to deal as to produce beauty of form and proportion. But we must also be scientists, so familiar with the strength and properties of materials as to combine them in sound construction; and we must, moreover, be men of business, so conversant with affairs as to be able to protect the pecuniary trusts which are committed to us. . . . The body politic of architecture is composed of parts, each one of which is essential to the unity of the whole, and without any one of which it would be incomplete and useless to society."

Mr. Murray then concludes his letter with the following:

"From the foregoing views it appears to be clearly demonstrated that modern architecture is an art which cannot under modern conditions be satisfactorily attained or correctly practised without the combination of a full share of scientific and financial considerations.

"Having due regard to this truism and also to the fact that in the past it has not been universally understood and adopted, I think it is essential for architects to realize now that there is a danger of comparative disaster overtaking private practitioners in the profession which is known as 'architectural,' and this would probably retard the future advancement of architecture in Britain.

"Some adequate remedy is surely necessary, and I therefore venture to inquire:

"(1) Is not the so-called supervisor- (surveyor) architect, whom the public have largely patronised, if he knows his work, designs and produces fine architecture by the aid of science and finance combined with business considerations, worthy of the high appreciation of the architectural world?

"(2) Would not such appreciation when awarded for

the best work practically coincide with the system of modern eulogy bestowed upon such old masters as Inigo Jones, Sir Christopher Wren, Sir William Chambers, John Nash, and many other modern supervisor (surveyor) architects, including many distinguished French architects?

"(3) Or, is it to be agreed that an architect who can design good architecture is incapable of acquiring a knowledge of and practising a full share of science and finance in connection with the art of architecture; or, if capable, that these essentials, which are required by the public, are unnecessary or beneath the artistic dignity of architectural art, thus producing conditions which have recently received severe stricture from a distinguished representative of the Government?

"(4) Is not the present time, the eve of the Great Peace, the most opportune moment for some sufficient and guiding policy to be clearly defined, and is it too much to expect that this might be done by the Royal Institute of British Architects in conjunction with the Royal Academy of Arts? These two authorities practically succeeded the mediæval art guilds, and now the developments and responsibilities of a strenuous future lie before them. The former was founded in the year 1834, 'for the general advancement of civil architecture and for promoting and facilitating the acquirement of the knowledge of the various arts and sciences connected therewith;' and the latter was established in the year 1768, 'for promoting the arts of design.'

"I fear, however, that without the universal recognition and practice in future by the architectural profession of a full share of science and finance as essentials in connection with architecture, the patronage of the architect by the public is likely to wane still more in this country in favour of other professions less qualified in architecture, to the lasting detriment of the art of architecture in Britain.

"More sympathetic unity and publicity of the merits of the general body of architects, many of whom excel in art as well as science and finance, would probably enlighten the public and possibly convert the sceptical.

"Perhaps this might be accomplished under the auspices of the Royal Institute of British Architects by holding periodically a great public exhibition of architects' work in all its branches; and it might with advantage be arranged also under the ægis of the Royal Academy of Arts, which was established 'for promoting the arts of design.'

"If this were accomplished, I can perceive a vision of a Press luminary largely patronized by the general public giving illustrations and artistic, scientific, and financial information and criticisms upon the designs, etc., exhibited, and upon numerous interesting and important problems, such as architecture in relation to every kind of art, science, and finance connected with education, the Church, the home, hospitals, music, the drama, the opera, Imperial, county and municipal government, agriculture, railways, trades, manufactures, monuments, and sports.

"By some such means, combined with the aid of the Press, it would be possible for many architects to demonstrate in a legitimate way their ability to do the services required by the public, including art, science, and finance—all of which must, in my opinion, be supplied in future, in a full degree by the architect himself if architecture is to remain a living art in Britain."

Housing Activities About the World

Housing in Canada*

The object of the Government in making provision for a loan of \$25,000,000 at 5 per cent to the Provincial Governments for housing purposes is—(a) to promote the erection of dwelling houses of modern character to relieve congestion of population in cities and towns; (b) to put within the reach of all working men, particularly returned soldiers, the opportunity of acquiring their own homes at actual cost of the building and land acquired at a fair value, thus eliminating the profits of the speculator; (c) to contribute to the general health and well-being of the community by encouraging suitable town-planning and housing schemes.

The provision of houses, so far as it may be regarded as a public duty, is a matter which comes more properly within the jurisdiction of the provinces and municipalities, and in ordinary circumstances, the question of what regulations should be imposed, and what policy should be adopted, in regard to the administration of housing schemes, are matters for these governments. As the Federal Government will lend the money on the general security of each province, it is not necessary to impose financial regulations as to the means which should be employed to safeguard the loans.

Conditions on Which Loans Will Be Granted

Approval of general provisions. Each province shall prepare and submit to the Federal Government for approval a general housing scheme, setting out the standards and conditions to be complied with in connection with local housing schemes. The general scheme of each province should include a schedule of minimum standards in regard to grouping of houses, provision of open spaces, sizes and heights of houses, sizes and heights of rooms, provision of light and ventilation, heating, lighting, character of materials, etc., which it is proposed should be enforced as the minimum requirements for health, comfort and convenience.

Maximum cost of dwellings. The object of the Federal Government being to facilitate the erection of dwellings at a moderate cost suitable for workingmen, particularly returned soldiers, it is necessary to place a maximum on the amount which may be loaned per dwelling, and the following maximum has been fixed having regard to the conditions existing in the different provinces:

(a) Detached or semi-detached dwellings with walls constructed wholly or partly of frame, stucco on frame, brick veneer, inclusive of the capital value of the site and necessary local improvements: With 4 or 5 rooms, exclusive of bathroom and summer kitchen, \$3,000; with 6 or 7 rooms, exclusive of bathroom and summer kitchen, \$3,500.

(b) Detached, semi-detached, groups of three or more or duplex (cottage flat) dwellings with walls of brick, hollow-tile, stone or concrete and roofing of fireproof materials, inclusive of the capital value of the site and necessary local improvements: With 4 or 5 rooms, exclusive of bathroom

and summer kitchen, \$4,000; with 6 or 7 rooms, exclusive of bathroom and summer kitchen, \$4,500.

Ownership of land. Public money may be advanced for building houses on sites owned by:

(a) The Provincial Government or municipality.

(b) Housing societies or companies comprising groups of citizens associated to promote good housing, supplied with proper improvements, such societies or companies to have not more than a statutory limitation of dividends payable on stock of 6 per cent.

(c) Owners of lots for the purpose of erecting houses for their own occupancy.

Terms of years for repayment of loans. The Federal loan will be repayable by the province over a period of twenty years, provided that in order to encourage the erection of more durable buildings, and to bring the financial terms within reach of a large number of workers, the period of twenty years may be extended to thirty years in respect of any portion of the loan which the Provincial Government may decide to re-lend for thirty years for such purposes as purchasing land or erecting buildings under the above class. Repayments by the provinces on account of Federal loans may be made quarterly, if so desired, or otherwise as may be agreed upon.

General Principles and Standards Recommended

The Government strongly recommends that in framing schemes, consideration be given to the following matters:

Acquisition of sites. The success of the housing movement depends upon the acquirement of suitable land at its fair value, and at a cost which workingmen can afford to pay. It is essential, therefore, that statutory provision shall be made by the provinces for a cheap and speedy method of compulsory taking of the land required for housing purposes. To facilitate proper planning and to secure economy in connection with housing schemes, comparatively large sites should, as a rule, be chosen so as to permit of comprehensive treatment. Such sites should be conveniently accessible to places of employment, means of transportation, water-supply, sewers, and other public utilities.

Planning of sites. Where housing schemes are proposed, the sites, as well as the buildings, should be properly planned so as to secure sanitary conditions, wholesome environment, and the utmost economy. The land should be sold under building restrictions that will insure its use for residential purposes only, and should it thereafter be desired to utilize any of the lots so sold for stores or other business purposes, the increased value for such business sites should be made available for public purposes in connection with such scheme.

Loans for separate or individual houses. In those cases where loans are given to workingmen owning lots, care should be taken to insure that the site proposed to be built upon occupies a healthful and convenient situation, and that suitable provision can be made in such situation for the erection of a sanitary type of dwelling, with adequate provision for open spaces.

*Notes from the Government Statement.

Limit of income of persons to be provided with dwellings. In order to insure that the money shall be loaned to those who most need it, no person in receipt of an income exceeding \$3,000 per annum should be eligible as a purchaser or tenant of a house erected with the aid of Government funds in any schemes carried out by provincial governments, municipalities, housing associations, or owners of lots.

Construction of local improvements to precede occupation of dwellings. In cities and towns, local improvements, comprising necessary sewers, pavements, sidewalks, water-mains, and lighting services, should be constructed as far as practicable prior to, or simultaneously with, the building of houses, and no house should be permitted to be occupied until provided with proper means of drainage and sewage disposal and an adequate supply of pure water.

Reservation of sites for playgrounds. In all new housing schemes, provision should be made for reserving at least one-tenth of the total area of land being developed for building purposes, as open space for playgrounds, etc., and also for reserving suitable sites for such institutes, public buildings, and stores as may be required.

Loans to be used for purchasing and developing land and erecting dwellings. Advances should be made for: (a) The purchase of suitable land for housing schemes; (b) the construction of the necessary local improvements on and in connection with the development of such land as part of a housing scheme; (c) the erection of sanitary and economical dwellings.

Proportion of cost of land to dwelling. The proportion of the money lent in respect of the capital value of the bare land (i.e., irrespective of all local improvements or other public services provided to adapt the site for building purposes) should not as a rule exceed one-tenth, and in no case should exceed one-eighth of the above gross cost of the dwelling. In computing the value of the bare land under this clause, the cost of such improvements as have been made should be deducted. For instance, the sum of \$3,000 might be lent in the following proportions:

Cost of dwelling	\$2,400 00
Cost of land	300 00
Capital cost of local improvements . . .	300 00
	\$3,000 00

If the value of the bare land is estimated to exceed one-tenth (\$300, in this case), the extra cost should be met by the owner.

Recommendations as to minimum standards in regard to sites: (a) *Streets.* All dwellings erected in cities and towns should face on streets so constructed as to provide dry and convenient means of access to such dwellings, or on approved courts opening on to such streets, and in no case on lanes or alleys. (b) *Sanitary provisions.* In cities and large towns, sewers and water-mains should be provided to enable connections to be made as buildings are erected; and in small towns, villages, and rural areas where no sewers exist, there should be proper sanitary provision for sewage disposal to the satisfaction of the board of health or sanitary engineer of the province. (c) *Water-supply.* All dwellings should have connected to them an adequate supply of pure water before occupation is permitted for purposes of habitation. (d) *Drainage of sites.* No building

should be erected on a site which shall not have been drained of surface water, or which shall have been filled up with any material impregnated with fecal matter, or with animal or vegetable matter, unless and until such matter shall have been removed, and the ground surface under such building shall be properly asphalted or covered with concrete or other dry and hard material to a thickness of 6 inches at least.

Recommendations as to minimum standards in houses—space around dwellings. Provision should be made for securing ample garden- and air-space surrounding the dwellings to be erected. In cities and towns, each dwelling should occupy a lot comprising at least 1,800 square feet, and in villages and rural areas, at least 4,500 square feet. Not less than 50 feet of clear open space in depth should be provided at the rear of dwellings, and the buildings should not occupy more than 50 per cent of the lot. Spaces between the gable or end walls of adjacent buildings should be provided as follows:

Between all buildings (single or in pairs), the walls of which are built entirely of wood or partly of wood and partly covered with stucco or brick veneer, or between all buildings which are more than two rooms deep and have side windows—16 feet.

Between buildings, the walls of which are built of brick, brick veneer, stucco, hollow tile, stone or concrete, with fireproof roofing material, which do not exceed two rooms deep—9 feet.

Dwellings erected of stucco or frame or brick veneer must be either detached or semi-detached (*See Clause 2, Maximum cost of dwellings, etc.*). In all cases, hollow walls should be provided.

Sanitary conditions and ventilation. Baths and water-closets should be provided in each dwelling, preferably on the bedroom floor. Baths and sinks should have hot and cold water. Water-closets should never open from a room and should have a window opening to the outer air. Basements should not be used for habitation. Every habitable room should have at least one window opening to the outer air. Each room should have a window-space of at least one-tenth the floor-area, and cross ventilation should be provided where practicable.

Height and sizes of rooms. Rooms should not be less than 8 feet in height on the first floor and 8 feet over two-thirds of the floor area in bedrooms. One living-room should not be less than 144 square feet, and two of the bedrooms not less than 130 and 100 square feet respectively.

Height and type of buildings and character of construction. Buildings should not exceed two and one-half stories in height, except in the case of cottage flats, which might be permitted to be three stories if constructed of fireproof materials. Houses should have four, five, or six rooms, and, in exceptional cases, for large families, seven rooms, excluding bathroom.

Conversion of dwellings into stores. Provision should be made to prevent dwellings being converted into stores or used for any purpose other than a dwelling, except with the authority of the Provincial Government or other suitable authority, and only then on receipt of a petition of two-thirds of the owners and occupiers in the street in which the dwelling is situated. Brick, hollow-tile, stone,

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or concrete should be used as far as practicable, preference being given to those materials that are produced locally.

Legal and other costs. A special scale of legal costs should be fixed so as to reduce the expense of the transfer of land and houses. It would reduce architectural expenses if the Provincial Governments issued a series of model designs of suitable dwellings, with detailed drawings, bills of quantities, and estimates.

Compliance with general scheme, etc. All buildings should be erected in accordance with a general provincial scheme, and in compliance with the requirements of standard forms of specification and contract, which shall have been previously approved by the Provincial Government.

Conclusion

The compulsory requirements in this memorandum have been kept down to the minimum of what is necessary to secure compliance with the Order in Council under which the Federal Loan is granted.

Housing Conditions in Paris

From the very complete publication issued by L'Office des Habitations à Bon Marché du Département de la Seine, one learns that Paris, commonly pointed to as an example of wise planning and great civic pride and forethought, has found itself confronted with a housing problem quite as acute as that which has befallen other cities in other lands.

"While in other countries," says the report, "the public authorities have sought to direct the growth of their communities by considerable acquisitions of land [in Germany and Australia and New Zealand, we assume, since the practice has not otherwise been utilized] retaining the benefit of the land increments for those who create them, the city of Paris and the Department of the Seine have, on the contrary, and on each occasion, alienated such parcels of land as might have become their possession.

"If it is impossible, at this time, to suppress the fatal consequences of this lack of forethought, at least we can now discontinue the practice and endeavor to save what land can still be saved from speculation in the Department of the Seine. Any delay may result in the gravest consequences. The parcels of land, of any size, and still free, are diminishing day by day. Since the war, the unheard of industrial development on the periphery of Paris has absorbed much land that had previously escaped speculation."

The Office of Low Cost Dwellings, after further elaborating the exigency of the housing situation and the necessity for immediate action looking toward the acquisition of land, asked for an appropriation of 10,000,000 francs, and this has now been almost entirely utilized in purchasing certain parcels of land whereon are to be developed types of garden cities. There are six parcels of land, varying in size from 40 to 160 acres, and totaling an area of about 500 acres. The preparation of the projects has been committed to duly appointed architect-directors, and the report in question contains plans showing the preliminary studies. These are largely based upon English town-planning practice, and their development must prove of great interest, for the report lays stress on the fact that these

communities must not be predicated upon an architectural conception, but upon the necessity for actually serving those who are to inhabit them, and of expressing their life. It will also be of interest in illustrating what actual economic results can be achieved by this effort to introduce small planned areas into the midst of an already overgrown and congested suburban district. Fortunately, the report indicates that the officials are thoroughly alive to the necessity of broader planning, in connection with the outgrowth of Paris, and that the Parisian slum, the haunt of tuberculosis and alcoholism, the grave of so much humankind, must be suppressed in the interest of the nation.

Housing in Australia

The War Service Homes Act

Under the War Service Homes Act, the Minister for Repatriation has announced his intention of advancing from £25,000,000 to £50,000,000 for housing of returned soldiers and their dependents. A Housing Commissioner—a financial expert—has been appointed at a salary of £1,500 per year.

The Commissioner is vested with wide powers including:

(a) Compulsory acquisition of land and dwellings in accordance with the simplified and salutary provisions of existing Commonwealth legislation (No. 31 of 1917), and
(b) Sale of houses and land on rent-purchase system and advances on mortgage for the purchase thereof subject to vigorous conditions aimed at preventing fraud, speculation, etc.

The Act sets forth in detail provisions relating to the system of advances, which are limited to £700 in the case of every house and not exceeding 90 per cent of the total value of the property. The advance may cover municipal rates or taxes during the period of repayment. Interest is not to exceed 5 per cent per annum.

Present Conditions Worse Than Before War

As with other modern countries, the housing problem in Australia has become worse since the war, although it was more conspicuous before 1914 than public opinion would then admit. Aldermanic self-complacency and the counsel of perfection in most things touching the Australian city have made it difficult for those diagnosing manifest evils of slumdom to escape the popular charge of "slandering the city." But that phase has passed. The influenza epidemic has arrived, and although it appears now to be held in check fairly well, it is turning public attention more to the reprehensible conditions which exist in some of our "garden cities." The problems created by the war are very marked. Recent statistics make clear the shortage of new dwellings that exists in capitals. Evidence and disclosures touching overcrowding and defective housing conditions, are not lacking. There are "slums" in Sydney, Melbourne, or even Adelaide, quite as old as some of the slums of London, Manchester, New York, or Chicago.

Australia's Broad Principles

The War Service Homes Act is largely an adoption and extension of the existing system of state advances to individual owners wishing to acquire and build their own house.

This system prevails in all the Australian states (except one) and New Zealand, and has been in operation for some years. Its effect has been to stimulate house-building and ownership by well-paid artisans and others. (In Western Australia, for instance, members of Parliament come within the scope of the local Act for such purpose.) It has also given much encouragement to estate developers and speculative builders seeking to dispose of their respective properties to buyers financed by the state banks. Without the application of town-planning and garden-city economics and methods, urban development and extensions thus stimulated are neither wholesome, scientific, nor economic. But governments, state banks, and those engaged in estate development have still to be persuaded that there is more satisfactory business to be gained under town-planning than otherwise. The case, however, is so logical and clear that it has to be presented but often enough in the right light to convince reasonable persons of the commercial soundness and economic value of the contention.

The Need for a Development Plan

Whatever results may flow from the War Service Homes Act, other complementary acts are required, both from the Commonwealth and state governments, before the serious arrears in other urban housing can be overtaken. The rehousing of the soldier can only hope to succeed where the demands created by general urban shortage are simultaneously met by the provision of the fresh accommodation required to repair the deficiency. For it is abundantly plain in Australia, after careful statistical analysis, that overcrowding, high rents, and shortage had increased and intensified whilst her soldiers were away fighting overseas. Therefore, town-planners in Australia are increasingly insistent in their demand—

1. That urban housing schemes for the community as well as the soldier are necessary,
2. That such schemes should provide for both soldiers and civilians, and
3. That all housing schemes should form part of and operate with national town-planning and rural development legislation.

These subjects, no doubt, will be ventilated further at the Third National Conference on town-planning and housing which is to take place in Sydney about April or May, 1920. In the meantime, however, the South Australian government has announced its intention to introduce this year a Town-Planning and Rural Development Bill (details of which have not yet been disclosed). The New South Wales government has appointed a State Town-Planning Board, and the New Zealand government has called together its first national Town-Planning Conference and Exhibition. These and other events indicate the rise of the new civic spirit and outlook in the progressive and isolated democracies of the British Empire, where town-planning and repatriation may be regarded as hopeful in the promise of further achievement. **CHARLES C. READE.**

Housing in England

The Housing Bill has not yet been enacted into law, but the authorities are proceeding with the details of

organisation on the basis that the general principles have been sufficiently fixed to warrant such action.

In the statement issued on April 7 last, it is stated that 658 housing schemes had been submitted by 358 Local Authorities, ranging from the thousand acres of housing development proposed by the city of Birmingham, to the fragments of an acre proposed in some of the rural communities. Most of the schemes are in the first stage, the site alone having been approved; of such approvals there were 228. For layouts, 168 had been submitted and 54 approved; 140 submissions of house plans had been received and 49 approved, totalling 2,133 houses.

Public Utility Societies

On April 28 the Government outlined a proposed method for extending the granting of aid from the treasury, originally confined to Local Authorities, to Public Utility Societies. These are characterized as associations desiring to build houses and willing to limit their dividends to 6 per cent. Elaborate provisions for the formation and administration of such societies are set forth in the statement which concerns the management, occupancy, and tenure of the properties; profits earned above fixed charges are to be expended for the benefits of the tenants.

The Government Manual

The Local Government Board has also issued a comprehensive manual of instructions. In addition to containing the printed forms to be used, it also gives numerous suggestions as to the planning of sites, streets, houses, and deals as well with the general regulations governing these factors. The manual states that "Competent architects should be employed to plan and design the houses to be erected."

Acquisition of Land

The Acquisition of Land Bill has not yet passed Parliament, and upon the character and general provisions of the bill everything depends. The need for houses has sent the price of land very high, and unless the bill provides for the compulsory taking of land at a fair valuation, many housing schemes will not only come to grief, but others will be saddled with an excessive cost on the local rate-payers and the national treasury.

Estimated Expenditure

On April 28 the Government stated that "The capital expenditure (in housing) will depend upon the number of houses to be built, the date at which they are built, and the type of house and accommodations provided. . . . The capital expenditure on, say, 500,000 houses, over a three-year period, may be estimated at from £250,000,000 to £350,000,000, the estimated range in cost of house being £500 to £700."

Years	Capital Cost of £500 per House	Capital Cost of £600 per House	Capital Cost of £700 per House
1919-20 . . .	£50,000,000	£60,000,000	£70,000,000
1920-21 . . .	100,000,000	120,000,000	140,000,000
1921-22 . . .	100,000,000	120,000,000	140,000,000
	<hr/>	<hr/>	<hr/>
	£250,000,000	£300,000,000	£350,000,000

News Notes

Contractor's Fee for Bidding

At the meeting of the Philadelphia Chapter, May 12, President Sinkler mentioned the scheme that is being considered by the contractors, whereby a charge or fee is to be made by each contractor who bids on a piece of work. There was brief discussion, and any definite action on this proposition was left to the Executive Committee. It was suggested that the adoption of the quantity survey might offer a remedy for the unremunerated expense of estimating to which unsuccessful bidders are now put.

Union Labor in Philadelphia

President Sinkler also mentioned the agreement recently made between a council of the Employers' Association and a council of labor organizations, to the effect that none but union labor shall be employed in building, this agreement becoming effective on June 1. The agreement also provides for a joint council of ten, to adjust disputes that may arise and to eliminate strikes, as far as possible, in the building industries. After some discussion a motion was adopted that the Executive Committee obtain as full information as possible of the exact nature and scope of this agreement and transmit such information in a circular communication to all the members of the Chapter; also that if the Executive Committee shall see fit to do so, it shall call a meeting of the Chapter to discuss this matter.

National Department of Public Works

At a conference of engineering and related organizations held in Chicago on April 23 to 25 last, the Institute being represented by Messrs. Irving K. Pond and Walter D. Blair, the following resolutions were unanimously adopted:

1. That the services and bureaus of the National Government having to do chiefly with matters of engineering and architecture, be grouped in one department to be known as the Department of Public Works.

2. That the Department of Public Works comprise those works which are built and operated for the use of the public.

3. That the Department of Public Works be made available when desirable for the performance of special engineering and architectural work for the use of other Government bureaus.

These resolutions embody principles to which the American Institute of Architects has long been committed, but their intelligent application is of course dependent upon the ultimate adoption of a budget system by Congress, as the Journal has long contended. While the present system of appropriating money for public buildings continues to be based upon the political preferment of congressmen, there can be no hope for a sound and economical public building program for the United States. But a budget system is slowly coming to life. Payment of the cost of the war cannot be left to the old slipshod methods of spending first and raising the revenue afterward.

Registration in Pennsylvania

Speaking of the recent convention of the Pennsylvania State Association, at the Philadelphia Chapter meeting on May 12, Mr. Plack said that two years ago the Association was charged with the work of preparing a bill for the Registration of Architects in the state. The bill failed, because of the provision that no one except an architect could make drawings for the erection of a building. This year the bill has been changed to meet this objection, and will probably pass; the Builders' Exchange, which was in opposition two years ago, now endorses the bill.

The Association of State Boards of Architectural Registration

At the time of the recent Institute Convention held in Nashville, a number of representatives of state registration boards met at lunch to discuss their problems. New York, Illinois, Michigan, Colorado, California, and other states actually having architects' registration laws, were represented, as were also Pennsylvania, Indiana, Ohio, and other states in which such laws are either under consideration or desired. A smaller gathering of a similar character was held at the Minneapolis Convention two years ago, the purpose being to make it possible for the various Board members to profit by the experience of others engaged in the same work and with a view to standardizing, as far as possible, the examinations, and thus to bring about an exchange of credits between the various states, in order that men qualifying in one state may readily be admitted to practice in others without the necessity of re-examination. As a result of the Nashville meeting, a tentative organization was formed, with Prof. Emil Lorch, of the Michigan State Board, as chairman, and Emory Stanford Hall, President of the Illinois State Board, as secretary.

It is hoped that all interested in furthering the work of such an organization will communicate with the secretary, Emory Stanford Hall, 332 South La Salle Street, Chicago.

Housing, Registration, and City Planning in Oregon

The Oregon Chapter has been instrumental in securing the passage of a housing code which is largely based on the Minneapolis Code. The code penalizes the 25- and 30-foot lots which have too often been adopted in the cheap additions—encouraging builders to use two instead of one. The code regulates the proportion of lot covered and provides proper ventilation for all living quarters—hotels, apartments, flats, and private houses.

The Oregon Chapter, after repeated efforts, has succeeded in passing a registration law which is largely based on standard registration laws used by many of the other states. The Board of Examiners will shortly be announced

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by the Governor. The bill was endorsed by the engineers, who were also successful in passing a registration law.

The Oregon legislature passed three important bills pertaining to city planning at the behest of the City Plan Commission of Portland, whose consultant, Charles H. Cheney, drew up the bills. These bills authorize the creation of city plan commissions in Oregon cities, enabling acts for zoning, and set-back laws.

The new City Plan Commission of Portland has employed Charles H. Cheney, of California, as consultant, and is at present at work on the zoning of the city.

The Acoustical Laboratory at Geneva, Ill.

The Journal is informed that, in spite of the death of Prof. Wallace C. Sabine, well known to architects as an authority on acoustics, the acoustical work at the laboratory planned by Professor Sabine at Geneva, Ill., will be carried on just as far as possible as he had planned it. The laboratory was designed by him especially for the study of specific acoustical problems such as he had been unable, through lack of time and adequate facilities, to investigate. Suggestions and inquiries from architects in regard to acoustical problems will be cordially welcomed by the Riverbank Laboratories.

Award of Institute Student Medal

Two awards of the Institute Student Medal have been made and are as follows:

To Richard John Carlson, Department of Architecture, University of Illinois; and to Edgar Buenger, Department of Architecture, University of Minnesota.

Building Laws in England and Wales

The Minutes of Evidence of the Departmental Committee on Building Byelaws appointed by the President of the Local Government Board to consider the control at present exercised in England and Wales over the erection of buildings and the construction of streets by means of byelaws and local regulations, and their effect upon building and development is published in a report of 335 large pages of fine print.

The object of the Committee was to find out whether the existing regulations were an impediment to building operations, particularly of small houses. Of the Committee, Mr. Raymond Unwin's name is the most familiar to American architects. Their hearings lasted from May, 1914, until March, 1918, and owners, real-estate agents, enforcing officials, architects, engineers, town-planners, builders, and representatives of housing and development associations testified.

The building byelaws are enforced by local district authorities with a "surveyor" as their executive. The regulations are based in some districts upon Acts of Parliament, in others upon early Public Health Laws, and in still other later cases upon model byelaws issued by the Local Government Board, which has a general control over the whole matter, acting through housing, legal, medical, and architectural departments. The model byelaws issued by the Board are divided into urban, intermediate, and rural

models. The local authorities are allowed to divide their districts into the different classes and to pass byelaws based upon these models but departing from them to fit local conditions if the Local Government Board approves. The byelaws control street widths, street construction and sewers, as well as such building matters as air-space around dwellings, foundations, walls, chimneys, roofs, plumbing, drainage, etc., the rural model, however, containing little but health provisions. The typical British precaution of a dampcourse in every wall above the foundation is always insisted upon, and makes us wonder how we get along without it in the United States.

The testimony showed dissatisfaction with some of the older byelaws, framed before the issuance of the Board's models, some of them dating from before 1880, and still enforced without discretion or appeal by the Local Authorities. Some of the objections seem odd to anyone familiar with housing laws in the United States, as, for instance, the plea that rooms should be allowed less than 8 feet high, and that windows should be allowed less than one-tenth of the floor-area of the room, one witness claiming that such a window was unnecessarily large and made a room "extremely uncomfortable and uninhabitable." Some windows have been built with tops only 3 feet above the floor, with no higher window in the same room. Apparently the Local Authorities can reject plans at their convenience as to time and without explaining their objections. The method of appeal from their decision appears to be to go ahead with the work against the ruling, wait for the Authority to commence to tear down, and then to go to court to restrain him from tearing down. The effect of oppressive requirements as to widths, construction, and sewerage in streets, in driving the developer to build his houses on narrow lots, was dwelt upon. A stone-paved street 40 feet wide, with flagged and curbed sidewalks and with separate sewers for rain and foul waters, naturally leans to houses only 13 feet wide. A "garden city street" was defined as a street with grass verges, and the impracticability of maintaining the grass in some localities was pointed out. A "garden street" is a footpath in front of the houses, with a paved service-street about 10 feet wide back of the lots, and was advocated as economizing on paving and maintenance costs. It was noted that when local authorities entered upon housing undertakings of their own, they usually revised their own byelaws by making them less severe.

Among the interesting opinions expressed were that all byelaws dating from the last century be revised by compulsion against the Local Authorities who still insisted upon them; that the model byelaws should be universal in their application as far as possible, at any rate in regard to fundamentals; that they should not be too specific; and that there should be appeal to some expeditious and inexpensive tribunal before going to the courts. The possibility of a local part-time representative of the Local Government Board serving as a member of such an appeal board was suggested. Such local representatives of a central body, to serve only when needed, might be useful in this country in some places where local work was infrequent and the local inspecting authority incompetent. The difficulty of changing building regulations based upon an Act of Parliament, as compared with regulations issued by the Local

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Government Board or by the Local Authorities, was made clear.

The report exhibits the British paternal attitude toward the "working classes," the realization that every opportunity must be given for the development of new methods and relaxation of the older existing regulations if the "working classes" are to be economically housed, and the unwillingness to change from the customs and regulations to which the Local Authorities have become accustomed.

CHARLES W. KILLAM,
School of Architecture, Harvard University.

"La Fin des Fortifs"

The Paris fortifications are to be levelled. The war has demonstrated their utter uselessness as a defence. They are less than a century old, to be sure, for they date from the Paris of Louis Philippe and of M. Thiers, says *L'Illustration*. It seems a pity that their futility could not have been discovered earlier, for thus their malign influence upon the development of Paris could have been in some measure averted.

On the site of the demolished walls, it is proposed to lay out squares and gardens, and to build houses for workmen.

Architectural Instruction for American Soldiers in France

The *Christian Science Monitor* prints an account of the work of Mr. Ernest Coxhead, a member of the Institute, in organizing and conducting classes in architecture in France, from which we quote:

"Among the Americans who enlisted for construction work in France was Ernest Coxhead, a practising architect of San Francisco. Before he reached France the armistice had been signed, so he was transferred to the educational commission and sent to Le Mans to conduct classes in architecture. Of the 200,000 young men in the Le Mans area, quite a number were students of architecture, whose studies had been suddenly broken off and their civil career brought to a standstill. These young men found themselves in a land of wonderful buildings. Close at hand were cathedrals, chateaux, public halls, whose beauty and grandeur could be appreciated but not assimilated for lack of time and proper instructive guidance.

"When Mr. Coxhead's plans were laid before the general commanding in the Le Mans area, his enthusiastic consent was immediately obtained and a class was started. It contained 22 "boys" who had had some architectural training, who were detailed for a three-weeks' course of intensive study. They reported to Mr. Coxhead for work at 8 A.M. and continued, with intervals for mess, until 9 at night. During the third and last week of the course a five-days' tour was arranged to Orleans, Tours, and the great chateaux and churches of Chartres, Blois, Chambord, and others.

"The course ended with a highly successful exhibition of the work done, held in the hall of the Municipal School of Design at Le Mans. Here more than 200 drawings were displayed, varying from rough sketches to water colors and oils, attesting to the value of the work done. Mr.

Coxhead is seeking to establish a number of centers for architectural teaching, each under a competent instructor, which shall move in rotation from point to point, the entire course covering a period of three months. Of course, only architects, or men who have had some practical training under an architect, would be eligible."

Registration in Minnesota

The registration bill advocated by the Minnesota Chapter and presented at the last session of the legislature of that state passed the House, but on account of the large number of bills before the Senate, the bill was not acted upon and will therefore have to hold over for two years.

The New New York State Association of Architects

At an enthusiastic meeting of architects held in Utica, N. Y., on June 7, 1919, a new society was formed, called The New York State Association of Architects. The organization is independent of any existing architectural organization. The old Association of the same name, which was formed some six or eight years ago by the four Chapters in the state, was on this same day adjourned *sine die*, and is now no longer in existence.

Early in May a call was sent out to all the registered architects in the state of New York, inviting them to express their opinion with regard to the need for a new Association, which would be composed of all the architects in the state irrespective of anything except their qualifications to practise under the registration act. The reply was instantaneous. Within three weeks, namely, at the time of the Utica meeting, more than 400 architects of the State had written to say that they were interested in the plan and wished to know more about it. At the Utica meeting there was every evidence of enthusiasm. The general discussion showed clearly that there was every desire on the part of the participants to form part of a group which would not only be helpful in advancing the interests and the qualifications of the architectural profession, but also increase the public service that the profession could render. What was most interesting was the democratic spirit that pervaded the meeting. The Constitution and By-Laws, drawn up on the spur of the moment, were passed on within a few hours because of their absolute simplicity. The most distinctive clauses are those on membership. The first reads:

"All architects registered in the state of New York, and all architects whose standing in practice is approved by the Board of Directors are eligible to membership in this Association."

This sounds very simple, but it really means a good deal. If the intention of the Utica meeting is carried out, it means that there are to be absolutely no other tests for admission to the new organization than those here described. The professional standing is to count in no way whatever. Having reached this interesting point, the meeting then went on to adopt Mr. Ackerman's admirable suggestion that the new organization include architectural draftsmen as junior members, similarly elected without

any qualifying conditions other than the fact of their being employed by architects eligible for full membership. This clause was adopted subject to revision by a committee somewhat as follows:

"Junior Members: All architectural draftsmen, working in the offices of architects, members or eligible to membership in this Association, are eligible to junior membership."

There was no dissenting voice from the resolutions adopted, in which the intent was clearly expressed to join in one organization (which is really in the nature of an architectural guild) everyone engaged in the practice of architecture within the state of New York, either as an employer or as an employee, irrespective of age, race, color, or servitude!

The officers elected to hold office until the first annual meeting, which is to be held in February, 1920, are as follows:

President, Ornan H. Waltz, Ithaca; First Vice-President, Robert D. Kohn, New York City; Second Vice-President, Edward B. Green, Buffalo; Third Vice-President, Frank H. Quinby, New York City; Secretary, Walter B. Frank, Utica; Treasurer, Harry W. Green, Watertown. Directors: J. Riley Gordon, New York City; F. L. Ackerman, New York City; Gordon Wright, Syracuse; M. M. Feustmann, Saranac Lake; and William P. Banister, Brooklyn.

Two committees, one on Membership and one on Public Information, were appointed, and the prediction was freely offered that the Association would have a thousand members within a year. The dues of the members are \$5 a year, and of Junior members \$3 a year.

There were architects at this meeting representing all the various architectural societies of the state of New York, Institute and non-Institute, and architects who were connected with no society at all. In a few weeks copies of the Constitution and By-Laws and propaganda literature with regard to the Association will be printed and will be ready for distribution. Architects in the state who are interested and who have not yet joined should certainly send in their names to the secretary. All those who join within the year 1919 will be considered as charter members. Those in other states who are interested in this type of organization, and who would care to see whether or not similar movements could be started in their own states, should also write for information to the secretary, Walter B. Frank, Utica, New York.

Not the least interesting indication of the spirit of the new organization is evidenced by the fact that its first regular meeting in the fall is to be held in Albany, and by vote of the organization the meeting is to be devoted to the subject of housing conditions in every county of the state.

ROBERT D. KOHN

Franco-American Committee

The French Technical Mission, composed of architects, engineers, contractors, and manufacturers of building specialties, to which reference was made at the Nashville Convention, has arrived in New York. The Commission is headed by M. Jacques Greber, who is already well known in this country through his work for the Philadelphia City Planning Commission, and the other archi-

tect member is Paul Cret, F. A. I. A., who, as the members of the Institute are aware, has recently returned to Philadelphia after four years' service in the French Army, during the last year of which he was attached as Liaison Officer to the American Expeditionary Forces.

MM. Nugue and Perreaud represent the engineering profession, the former being a manufacturer of brick-and cement-making machines and elevators, carriers, crushers, etc., and the latter being a specialist in machine tools and mechanical engineering. M. Jacob is a manufacturer of plumbing fixtures and is also interested in tiles and pottery, and M. Bonhommé is a contractor for masonry and large public works.

The Commission expects to spend about a month in this country, traveling as far west as Chicago, and plans to study various housing developments in which, naturally, all its members are interested, and to examine into American methods of building, American materials, and the labor-saving machinery used in construction work; also to study the design of machinery used in the production of building materials.

In view of the restrictions on importation in France, the Commission will make an especially careful investigation to determine in what cases this prohibition should be lifted and in what cases it will be possible to apply American methods of production to materials which can be procured in France.

The possibilities of standardization in certain elements of construction, which were well exemplified in the Emergency Fleet and Housing Corporation work, are also of interest to the Commission, while the possibility of the establishment of a Franco-American clearing-house for information of interest to architects and builders in both countries is under discussion with the members of the Committee appointed by the Institute.

It is hoped, also, that, through the conferences between the French Committee and the Committee of the Institute, there may develop an interchange of ideas on professional matters which will be of real value, both to American and French architects.

The members of the Institute Committee are: Robert D. Kohn, William Emerson, J. L. Mauran, E. W. Donn, Irving K. Pond, and Charles Butler, Chairman.

The Ideal House

Under the above caption, and as a part of the serious discussion on the housing shortage and its attendant crisis in England, now filling the columns of the English press generally, there recently appeared the following interesting comment and opinion in the Daily News (London). If the writer seems to indulge the popular opinion that architects and builders "should send along plans" he at least awards a rare meed of praise to one who has pleased him.

"I have at times lived in half a dozen different houses, and boarded at many more, including the old home down west, the feature of which was the ample kitchen with its stone floor—ample enough to swallow a table to seat twelve, a sofa, two easy chairs, and a grandfather's clock, to say nothing of fowling pieces and warming pans on the walls.

"My ideal small house would be a compound of the

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best I have seen. Finishing with a fair-sized, stone-floored, glazed-tiled scullery, with sink, copper, and washing-bench where odd jobs, such as carpentry, could be done on winter nights, it would include a sizable kitchen containing an ample up-to-date cooking range heating a constant hot water service to the sink and copper downstairs, bath and lavatory basin upstairs, and warming always a hot linen cupboard. There would be a tolerable parlour with case-ment windows downstairs, and two good bedrooms, a third small one and a bathroom upstairs. This can be, and is, done on a frontage of eighteen feet with no 'back additions;' but it is skimpy. Properly it requires twenty-one feet. Kitchen-sculleries, I find, are a mistake; they are usually small, and the environment of the copper is not exhilarating.

"I would eliminate 'winders' in the stairs, drops or steps in the passages, and specify all doors to open without beating against another open one.

"I would suggest inviting architects and builders to send along plans of what has been done.

"Within a quarter of a mile from here (six miles from St. Paul's), there are two short terraces of new villas all let at about fourteen shillings weekly. Of exquisite elevation, they are things of beauty. That architect should be raised to the peerage and given a big job right away."

War Memorials

The Chairman of the Subcommittee on War Memorials (Post-War Committee), Mr. Horace Wells Sellers, reports that the Southern Pennsylvania Chapter has appointed a committee on War Memorials, including several influential citizens, and has, at the suggestion of the Chairman, forwarded to the Governor resolutions urging the passage of the bill providing for a State Art Jury. The Pittsburgh Chapter has also urged the passage of the bill, and is now taking steps toward the formation of a local committee. Other Chapters are similarly at work in coöperation with the Subcommittee; the address of the Chairman is Stephen Girard Building, Philadelphia.

Institute Business

Meetings of the Board of Directors

Meetings of the Board were held at Nashville on the two days prior to the Convention, but most of the business there transacted was in connection with the Convention Actions published in the last number. The following items remain:

Unanimous Endorsement. Attention was called to a standing order of the Board of Directors which provides that no applicant can be given unanimous endorsement by a Chapter unless he was a member of the Chapter prior to December 6, 1916. This prevents those who have been elected Associates since then from receiving unanimous endorsement. It discourages an increase of membership and draws an unnecessary distinction.

Resolved, That the standing order be amended to permit Associates to receive unanimous endorsement regardless of the time of election.

Revision of Disciplinary Rules. Mr. Sellers presented a draft of revised rules for the guidance of the Committee on Practice and the Judiciary Committee of the Board of Directors, prepared jointly by himself as Chairman of the Judiciary Committee, and Mr. Elmer C. Jensen as Chairman of the Committee on Practice. The document embodied the changes in disciplinary procedure arising from the amendments to the By-laws as passed at the Fifty-first Convention, and other changes by the Committee.

Resolved, That the document be approved, subject to the approval of Institute counsel, and issued as an Institute document.

Journal Policy. The President presented letters from Messrs. Cass Gilbert, R. C. Sturgis, and C. Howard Walker criticizing an editorial which appeared in the March number of the Journal under the title "Shadows and Straws." The letters were read in full.

Resolved, That the latter portion of Mr. Walker's letter with reference to the work of the architect and the engineer be referred to the Post-War Committee.

The President stated that he wished to go on record as leaving the Editor with no greater share of responsibility for the editorial in question than should be borne by the Committee on Publications itself.

After several expressions of opinion regarding the editorial policy that should be followed, it was

Resolved, That the following be transmitted to the Convention in the Board's report as a statement of the position of the Board:

"The March number of the Journal contained an editorial which has aroused strong controversy on other than architectural grounds.

"While the responsibility for the editorial is shared by the President, the Committee on Institute Publications, and the Editor of the Journal, the Board should assume its share of responsibility as it has not laid down a definite editorial policy heretofore.

"Regardless of whether or not the article in question expresses the opinion of the Institute, and without consideration of the merits or demerits of the arguments used in the article in question, the Board believes that such an article was not of the type which should be published as an editorial in the Journal. Therefore, the Board instructs the Committee on Publications that the columns of the Journal should not be devoted to matters which may become the subject of political or religious controversy."

The meeting of the Board on May 3, the day following the Convention, was almost entirely occupied with the appointment of committees for the year 1919-20, the following of which are now complete:

Executive Committee. Thomas R. Kimball, William Stanley Parker, D. Everett Wald, Richard E. Schmidt, and Robert D. Kohn.

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Judiciary Committee. William B. Faville, Chairman, Richard E. Schmidt, Henry H. Kendall.

Instructions: The instructions to the Judiciary Committee are contained in the By-laws, and in the document known as "Rules for the Guidance of the Committee on Practice and the Judiciary Committee," as revised by the disciplinary committees during 1918-19 and approved by the Board of Directors at the meeting in Nashville, subject to the approval of counsel.

Committee on Practice. Elmer C. Jensen, Chairman. (One member in each Chapter.)

Committee on Allied Arts. Wm. B. Faville, Chairman; Charles Z. Klauder, E. H. Hewitt, Frank B. Meade.

Instructions: This Committee is charged with the task of encouraging and stimulating all forms of art, both for their inherent value as social forces and as necessary channels through which collaboration may lead to a better architecture, to an ever-widening appreciation of the value of good building and a knowledge of the benefits to be derived from the wise physical development of all our communities, both small and great. It should cooperate with the Committee on Publications in making available for regular publication in the Journal such articles and illustrations as it deems to be meritorious contributions to any art. The Committee is also charged with the duty of nominating candidates for the Institute medals in Allied Arts and Fine Arts, the latter according to vote of the Fifty-second Convention.

Committee on Contracts. William Stanley Parker, Chairman; M. B. Medary, Jr., Vice-Chairman; F. E. Davidson, Edwin H. Fetterolf, Goldwin Goldsmith, Sullivan W. Jones, Richard E. Schmidt.

Committee on Preservation of Historic Monuments and Scenic Beauties. Horace Wells Sellers, Chairman; W. R. Briggs, Arthur Benton, Arthur Brown, Glenn Brown, George Cary, C. A. Coolidge, Reinhardt Dempwolf, W. M. Ellicott, Norman M. Isham, Elmer C. Jensen, Fiske Kimball, L. A. Livaudais, L. W. Robinson, Howard Sill, Egerton Swartwout, Ornan H. Waltz, N. G. Walker.

Committee on Institute Publications. For three years: Milton B. Medary, Jr., Ben J. Lubschez; for two years: C. L. Borie, Jr., Herbert B. Briggs; for one year: Frank C. Baldwin, William Stanley Parker.

Subcommittee on Public Information. Not yet complete.

Membership Committee. F. W. Perkins, Chairman; C. H. Hammond, H. K. Holsman.

Instructions: The Committee is instructed to formulate and carry out a campaign for an immediate increase of Institute membership in the various Chapters. The Board suggests to the Committee that it might be advisable to assign to each Chapter a definite quota of new members. The Committee is given power to add to its personnel as it may see fit.

Committee on Regional Representation. C. A. Favrot, Chairman; W. B. Faville, E. H. Hewitt.

Committee to Confer with French Architects. Charles Butler, Chairman; E. W. Donn, William Emerson, R. D. Kohn, J. L. Mauran, I. K. Pond.

Committee on Public Works. Charles A. Favrot,

Chairman; Walter D. Blair, John P. B. Sinkler, Irving K. Pond, Edward W. Donn, Jr., William Mooser.

Instructions: This Committee is charged with the duty of cooperating with the Committees appointed by the conference held in Chicago on April 23-25 at the call of Engineering Council, for the purpose of securing the establishment of a Department of Public Works as well as considering public building methods throughout the country and other related matters. It is understood that Mr. Pond will act as the representative of the Institute and the Committee at any conferences that may be called by Engineering Council in connection with the establishment of a Department of Public Works.

Structural Service Committee. Sullivan W. Jones, Chairman; Rolland Adelsperger, John L. Hamilton, H. W. Tomlinson, F. Y. Joannes, Smith O'Brien, Stephen F. Voorhees, and Chairmen of the following coordinate committees: Basic Building Code, Contracts, and Fire Prevention.

Instructions: In addition to the instructions of the Convention, this Committee is charged with the task of advising and cooperating with the Journal in the continuation of its Structural Service work.

Committee on Community Planning. John Irwin Bright, Chairman; Frederick Bigger, M. B. Biscoe, Parke T. Burrows, Hermann Dercum, Henry Wright, A. L. Fehheimer, Thomas G. Holyoke, Walter H. Kilham, E. C. Klipstein, Louis Lott, Arthur L. Loveless, Dwight H. Perkins, Hermann Wischmeyer, Burt L. Fenner, R. D. Kohn, Arthur Rice, Charles H. Cheney, H. Olin Jones, John A. Miller, F. L. Ackerman, A. P. Clark, Jr.

Instructions: The Committee is instructed to continue the work as outlined in its report, and also to consider the various matters covered in the instructions for the preceding year which, on account of unusual conditions, have not been acted upon. The Committee is also charged with the carrying out of the instructions of the Convention.

Basic Building Code Committee. D. K. Boyd, Chairman.

Instructions: The Committee is charged with the duty of studying the best means of cooperation with other technical and scientific organizations, as well as with the Federal Government, all looking to the standardization of building code requirements throughout the United States.

Committee on Registration Laws. Richard E. Schmidt, Chairman; D. Everett Waid, Charles H. Bebb, Wm. P. Bannister.

Committee on Lincoln Highway. Elmer C. Jensen, Chairman.

Instructions: This Committee is instructed to consider ways and means whereby the Government may be induced to take charge of the project.

Committee on School Building Measurements. Wm. B. Ittner, Chairman; John J. Donovan, James C. Hopkins, F. A. Naramore, D. H. Perkins.

Instructions: The instructions to the Committee are as given by the Convention.

Post-War Committee on Architectural Practice. The President spoke of the work of the Post-War Committee on Architectural Practice, and the action of the Convention in endorsing its program.

INSTITUTE BUSINESS

Resolved, That the Executive Council of the Post-War Committee, Messrs. N. Max Dunning, Chairman; Robert D. Kohn, and Milton B. Medary, Jr., be reappointed, with power to change the personnel of the main Committee as it desires. It was further

Resolved, That, inasmuch as the Convention has endorsed the work of the Post-War Committee, it is therefore authorized by that action to proceed with its work.

The Treasurer was requested to advise the Committee that the Board is most anxious to keep expenses this year as far as possible within the Budget income. The Board requests the Post-War Committee to limit its expenses as far as possible, and that it submit to the Treasurer a statement of the expenses which will probably be incurred during the remainder of the year.

Committee on War Memorials. Mr. Horace Wells Sellers, Chairman. (Committee of one with subcommittees as may be appointed.)

Instructions: This Committee is charged with the duty of advising communities, organizations, and individuals in matters connected with the design and erection of war memorials; and with the duty of coöperating in this work with other national organizations, such as the American Federation of Arts. It is given authority to appoint such subcommittees as it sees fit in the various Chapter territories of the Institute.

Committee on Small Houses. Mr. Edwin H. Brown, Chairman. (Committee of one with subcommittees as may be appointed.)

Consideration was given to the necessity of Institute action for the encouragement of better designs for small houses throughout the country; and to the Convention discussion of this subject. It was resolved that Mr. Edwin H. Brown, of Minneapolis, be appointed chairman of a Special Committee for this work, with authority to add to the membership of his committee as he sees fit.

The instructions to the Committee are that it be governed by the instructions of the Convention.

Declinations and delayed acceptances leave several important Committees as yet incomplete. It is expected that these may be published in the next issue.

Report of the Judiciary Committee

TO THE MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS:

The "Rules for the Guidance of the Committee on Practice and the Judiciary Committee of the Board of Directors" require "that all findings of the Judiciary Committee, whether in favor of or against the member involved, with the action taken by the Board of Directors, shall be reported to each member of the Institute."

The Board of Directors has received the report of the Judiciary Committee in reference to charges of unprofessional conduct against the Institute members named herein.

These findings of the Judiciary Committee (in small type) and the action of the Board of Directors thereon, are hereby transmitted in accordance with the rules mentioned above.

Findings of the Judiciary Committee

"When the Judiciary Committee of the Institute assumed its duties, some time subsequent to the Fifty-first Convention, its predecessor had pending one case, namely, the charges of unprofessional conduct against Frederick W. Garber and Clifford B. Woodward, Institute members of the Cincinnati Chapter, on the ground that they had supplanted a fellow architect in violation of the tenth canon of the Canons of Ethics.

"Under the By-laws of the Institute, as amended at the Fifty-first Convention, it became the duty of the old Judiciary Committee, of which I was chairman, to conclude its work on this pending case.

"The Committee on Practice reported to the Judiciary Committee that it had found a *prima facie* case against Messrs. Garber and Woodward for violation of the tenth canon of the Canons of Ethics.

"The Judiciary Committee gave careful consideration to the report of the Committee on Practice and to the evidence accompanying the same.

"A hearing was then held before the Judiciary Committee in Washington on January 18, 1918, at which the entire case was examined *de novo*.

"In the light of the new evidence brought out at the hearing, the Committee is unable to affirm the decision of the Committee on Practice, and exonerates Messrs. Garber and Woodward of the charge of unprofessional conduct."

The Board of Directors has accepted this report and findings of the Judiciary Committee as submitted above, and hereby exonerates Messrs. Garber and Woodward of the charges of unprofessional conduct.

Very truly yours,
WILLIAM STANLEY PARKER, *Secretary*.

Obituary

James H. Windrim

Elected to the Institute in 1876; to Fellowship in 1880

Died at Philadelphia, April 26, 1919

At the last meeting of the Philadelphia Chapter, the Secretary read the following note and resolution on the death of Mr. Windrim, and they were ordered to be spread upon the minutes of the meeting:

In the death of James H. Windrim, the Philadelphia Chapter lost the dean of its architectural membership and the city of Philadelphia a most distinguished citizen, one whose practice extended over a period of many years, and to whom the city is indebted for a large number of its important buildings. Mr. Windrim was president of the Philadelphia Chapter from 1879 to 1886.

In addition to the practice of his profession, he took an active interest in public affairs, filling the position of Supervising Architect of the Treasury Department from 1889 to 1891, when he resigned to assume the office of Director of Public Works of Philadelphia, which office he retained until 1895. During his incumbency, and under his able administration, many civic improvements were carried to completion.

Mr. Windrim evinced in his work good judgment in design and administrative ability, with which he was largely endowed. His professional accomplishments were many, and his generous and kindly consideration, as well as his unfailing courtesy, will be remembered with gratitude by all who came in personal contact with him or had occasion to seek his advice. He stood for high ideals in

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practice as he did in life. His long and distinguished service to our profession merits the highest appreciation and recognition. And therefore be it

Resolved, That the Philadelphia Chapter express to Mr. Windrim's family its deepest sympathy in their bereavement.

Frederick Charles Lebenbaum

Born at San Francisco, Calif., September 15, 1882

Died at Chicago, Ill., December 17, 1918

Mr. Lebenbaum studied at the Massachusetts Institute of Technology during the years 1905-1906. He then attended the atelier of M. Laloux, in Paris, during 1907-1908. In 1909, with Samuel A. Marx, he organized the firm of Lebenbaum & Marx, and was in active practice from then until the time of his death. Mr. Lebenbaum assisted in designing and building the New Orleans Municipal Art Museum, the industrial town of Langeloth, Pa., the St. Louis-San Francisco Railroad Station at Oklahoma City, Okla., and many buildings of every description in Chicago.

Wallace Clement Ware Sabine

The Harvard Graduates' Magazine for March contains a note on the death of Professor Sabine of Harvard University, long known to many members of the Institute as an authority on acoustics, and from a minute of the Faculty of Harvard University we are privileged to quote briefly on the life and work of one who had made so great a contribution to the theory and practice of a factor in architecture, the importance of which cannot be set too high.

Professor Sabine was born in Richwood, Ohio, June 13, 1868, and his four names represent some family of his ancestors, who were Scotch, Dutch, English, and French. He gained the degree of A.B. at Ohio University at the age of eighteen. He entered Harvard in 1886 as a graduate student in mathematics and physics, and received the degree of A.M. in 1888. From 1887 to 1889 he held a Morgan Fellowship, but in the latter year he became an Assistant in Physics. He was made Assistant Professor of Physics in 1895.

"The Fogg Art Museum," says the minute of the Harvard Faculty, "on its completion in 1897, proved to have an auditorium that was monumental in its acoustic badness, and President Eliot, who had formed a high opinion of Sabine's qualities, called upon him to find a remedy, as a practical service to the University. With this warrant for diverting some of his energy from teaching, Sabine entered upon an investigation which proved to be his most conspicuous scientific work. Though he was dealing with a new structure, he was attacking a problem as old as the institution of public buildings. It had never been solved before in any thoroughgoing manner. He did solve it, and he did this not by virtue of any extraordinary resources given by modern science. He did it in such a way as to show that it might have been done by a man like him centuries before. Not only did he cure the defect of the particular room that first engaged his attention; he went on with his study till he could tell in advance what the acoustic qualities of a projected auditorium would be; and

his visible instruments in all this achievement were organ pipes, common fabrics and materials, and the unaided human ear."

Professor Sabine became the dean of the Graduate School of Applied Science at Harvard. He lectured at the Sorbonne in Paris in 1917 and later was attached to the Air Service of the American Expeditionary Force. He returned to Washington as a consultant on airplane production and use, and his death was the result of overwork, due to his unwillingness to shirk any of his duties. He died on January 10, 1919.

Prof. Charles Peck Warren, A. M., A. I. A.

Charles Peck Warren, late Assistant Professor of Architecture at Columbia University, who died last October, was one of those quiet workers whose efficiency and usefulness are hardly appreciated at their true value until they are taken from us. Born in Brooklyn, N. Y., in 1869, he entered the School of Architecture at Columbia in 1886, and was graduated therefrom in 1890, taking the A.M. degree two years later. In 1893 he began his teaching in the school, and from that date until his death—a period of twenty-five, out of his too brief life of forty-nine years—his heart and strength were devoted to the service of the institution in which he had received his training. His department was that of construction, including at different times such related subjects as building materials, specifications, and architectural engineering. His clear and logical mind and his gift for illustration and concise exposition, enabled him to compress a remarkable amount of instruction into a small compass of time. It was this very compression and conciseness of presentation that, combined with his low voice and over-modest manner, prevented adequate appreciation of his courses at the time, except by the clearest-headed undergraduates. But testimony abounds from graduates as to their soundness and lasting value, and in spite of his exacting standards of performance, he was not only respected but loved by his students, and his loss is deeply felt by all whom he once taught as well as by his colleagues in the University and in the profession.

While thus engaged in teaching, Warren actively practised architecture, first in partnership with Grenville Snelling, later with William Adams; and was for some years associated with the writer in the design and superintendence of several buildings for Robert College at Constantinople, where he spent several months in 1912. He was a remarkable draftsman, a designer of fine taste and judgment, and equally skilled in the engineering side of his work. He was an Associate Editor of the last (16th) edition of the Kidder "Pocket-Book," to which he contributed a number of important articles.

In 1902 he married Mrs. Mary Merchant, formerly of Alabama, who survives him. He was a member of the Delta Upsilon fraternity, of the Columbia University Club, and of the American Institute of Architects.

Mr. Warren's circle of intimate friends was not large, but those who were privileged to belong to it will never forget the charm of his fine personality, the warmth and depth of his affection, the serenity of his disposition, his high ideals and the purity of his rare character. It is the still waters that run deep.—A. D. F. HAMLIN.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS & SPECIFICATIONS, FIRE-PREVENTION, MATERIALS & METHODS, STRUCTURAL SERVICE

Pipe, Iron and Steel

Who knows the relative resistance to corrosion of steel and genuine wrought-iron pipe? Who has been able to reach a conviction on this point as the result of fifteen years' industrious publicity by the manufacturers of both varieties? Have the countless accelerated tests, service tests, and inspection reports helped to reveal the truth? Is iron pipe produced today the same as that made twenty, twenty-five, or thirty years ago? Is steel pipe better now than it was in earlier times? Is all iron pipe the same and are the several makes of steel pipe identical? Does galvanizing really add to the life of either or both? These are some of the questions which disturb the peace of mind of the architect or engineer who wants to specify the best.

A great deal of money has been spent by the makers of iron pipe and the makers of steel pipe in urging the merits of their respective products. But to architects, who

generally do not qualify as metallurgists, physicists, or chemists, in weighing the technological data submitted, there seem to be no thoroughly impartial scientific conclusions available for their guidance in the selection of pipe. The American Society for Testing Materials is now conducting a series of actual service tests to determine the relative corrodibility of steel and wrought iron. The publication of the results of these tests will be awaited with great interest. In the meantime, and as contributory to the question at issue, we publish a report prepared by Dr. William Paul Gerhard, C.E., for presentation to the last Convention of the Institute at Nashville. This was not possible, owing to the decision to have no papers read at the Convention meetings. Dr. Gerhard's paper is published as a personal contribution and without prejudice.—THE EDITOR.

Cast-Iron Pipe or Welded Pipe for House Drainage Calked-Joint vs. Screw-Joint, Wrought-Iron vs. Steel Pipe

By DR. WILLIAM PAUL GERHARD

Consulting Engineer, Honorary Corresponding Member, American Institute of Architects,
Member American Society of Mechanical Engineers

Among the questions which occur to the architect in his everyday practice, none are of more importance than those relating to the selection of suitable and adequate materials for construction and equipment. The kind of material to be specified for a building depends primarily upon the character of the latter, as well as upon the expected duration of life of the structure. The more permanent a building is intended to be, the higher and more durable should be the quality of materials to be incorporated in it.

The plumbing and drainage of a building form an essential part of its interior construction, because upon them depend the comfort and convenience, the safety and healthfulness of the structure and its occupants. A house drainage system may be divided into four equally important parts, viz.:

- (1) The plumbing fixtures.
- (2) The trapping system.
- (3) The supply pipe system.
- (4) The *drainage or waste system*.

Only the last-named system, which comprises the house sewer and its branches, the soil, waste, and vent pipe

stacks, and the leader or rainwater conductor pipes will be considered in this paper.

In specifying this system, architects are confronted with the question whether cast-iron plumbers' soil pipe, with lead-calked joints, or screw-jointed welded pipe should be used. Both piping systems have their friends and advocates. When the Durham screw-jointed system was first introduced, about the year 1880 or 1881, the material used was genuine wrought-iron pipe. About 1890 the manufacture of mild steel pipe on a large scale was inaugurated, and after both genuine wrought-iron and steel pipe had been more widely used, a second question arose for the thoughtful consideration of the architect, viz., which of these two pipe materials should be specified, which was superior from the corrosion point of view, and which showed greater durability.

These questions and others incidentally connected with them became the subject of many controversies in the technical press, and were freely discussed by engineers, plumbers, and metallurgists. An opportunity came to the writer in the summer of 1918 to make, in New York City, an independent investigation of the subject, and he took it up with a very deep interest, if for no other

reason than to settle in his own mind some doubts which had occurred to him after a study of the "pros and cons" of the controversy. He, however, also looked upon the investigation as offering an excellent opportunity for eliminating prejudices and biased views, and for discovering more positive answers to these questions.

A full report of this investigation, with numerous illustrations, was presented by him at the annual meeting, on December 6, 1918, of the American Society of Mechanical Engineers. The following statement is condensed from it to serve the requirements of the architectural profession.

A total of 78 buildings on both sides of Broadway, from Bowling Green to 42nd Street were inspected. Buildings less than six stories in height, and buildings erected less than five years ago were omitted. For this reason recent high structures, like the Woolworth, the Equitable, and a few other buildings were passed over, for the age of their piping installation would not have warranted the drawing of conclusions as to the comparative degree of rusting of the materials used.

In the following Table I a summary is given of the buildings, according to their age:

TABLE I

Buildings over 30 years old	13
Buildings from 25 to 30 years old	10
Buildings from 20 to 25 years old	17
Buildings from 15 to 20 years old	17
Buildings from 10 to 15 years old	15
Buildings less than 10 years old	6

78

Of these, 28 had cast-iron piping, 1 black wrought-iron, 3 mixed black steel and wrought-iron, 12 galvanized steel, 14 galvanized wrought-iron, and 20 mixed galvanized steel and wrought-iron piping.

It should be mentioned that the investigation was confined to the roof vent pipes and the cellar sewers; the water supply piping was not included. Complete records were made of the location and age of each building, the number of stories, the pipe material, the number of roof vent pipes, the number of roof vents from which samples were obtained for testing, the condition of the vent pipes and of the cellar sewers where accessible. All these details are embodied in diagrams accompanying the paper mentioned above. A somewhat condensed account is exhibited here in Table II.

TABLE II

Serial Number of Investigation	Name of Building	Age of Bldg. and Installation in Years	Number of Stories	Material of Vent Pipes	Condition of Vent Pipes	Condition of House Drains
48	Stewart Bldg.	Over 50	7	Standard cast iron, some black w. i. put in 1884.	W. i. vents in good condition.	Cast iron sewer pitted inside very deep, still good.
47	Federal Court-house, Post-Office Bldg.	51	7	Cast iron, ex. heavy.	Vents in good condition.	One c. i. joint leaking.
57	Broadway-Central Hotel	50	8	Cast iron, standard.	Vents deeply pitted but still good.	Light c. i. sewers in bad condition; numerous patches.
78	Metropolitan Opera House	36	7	Cast iron, ex. h.	C. i. vents evenly pitted.	6 c. i. joints leaking and recalced.
15	Welles Bldg.	36	10	Cast iron, ex. h.	2 c. i. vents in perfect condition.	Some joints of c. i. sewer forced out.
74	Marlborough Hotel	35	6	Cast iron, ex. h., some stand. c. i.	One-half of vents evenly pitted; rest good as new.	A number of calked joints show calking lead forced out.
75	Hotel Normandie	35	8	Cast iron, ex. h.	C. i. vents pitted very deep.	C. i. sewer apparently in good condition.
1	Washington Bldg., formerly Field Bldg.	34	11	Cast iron, ex. h.	Vents inaccessible.	C. i. apparently in good condition
13	Produce Exchange Bldg.	34	7	Cast iron, standard.	Could not inspect interior of vents.	Sewers inaccessible.
33	Chatham National Bank Bldg.	30	8	Cast iron, ex. h.	5 vents pitted, but in good condition.	Noted 3 leaks on c. i. sewer.
38	Hotel Imperial, old part	29	9	Cast iron, ex. h.	C. i. vents deeply pitted, but otherwise good.	Sewers partly galv., partly c. i. in good condition.
23	Union Trust Bldg.	28	12	Cast iron, ex. h., also 4 galv. w. i. vents.	C. i. vents in good condition; 4 galv. vents in good condition.	C. i. in good condition; 4 joints had lead forced out.
12	Mail and Express Bldg.	27	10	Black wrought iron.	All black w. i. vents pitted, but in good condition.	Sewer apparently in good condition.
36	Postal Telegraph Bldg.	26	14	Cast iron, ex. h.; also 1 galv. steel, 2 galv. w. i.	C. i. vents pitted; w. i. in good condition; steel in good condition.	Sewers apparently in good condition.
52	New York Life Insurance Bldg.	26	13	Mixed galv. steel and galv. w. i.	11 galv. steel bad; 7 galv. steel galv. gone; 3 steel good as new; 10 black steel scaling badly; 1 w. i. galv. gone.	Sewers apparently in good condition.
37	Home Life Bldg.	25	18	Mixed galv. steel and galv. w. i.	2 black w. i. badly pitted; 2 galv. w. i. bad; 3 galv. w. i. good; 1 galv. steel bad.	2 sewer lines of screw-jointed pipe corroded and replaced.
27	American Surety Bldg.	25	21	Mixed galv. steel and galv. w. i.	6 w. i. good condition; 1 w. i. badly pitted; 1 steel very badly corroded.	Sewers inaccessible.
43	Langdon Bldg., formerly Mutual Reserve Life Bldg.	24	14	Mixed black steel and black w. i.	5 black w. i. good condition; 6 black steel, badly corroded.	6-inch w. i. sewer, apparently in good condition; no trouble with drainage.
21	Manhattan Life Bldg.	24	18	Mixed galv. steel and galv. w. i.	4 galv. steel very bad; 1 galv. steel very good; 2 galv. w. i. very good; 1 black w. i. pitted.	Sewers apparently in good condition.

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TABLE II, continued

Serial Number of Investigation	Name of Building	Age of Bldg. and Installation in Years	Number of Stories	Material of Vent Pipes	Condition of Vent Pipes	Condition of House Drains
63	Townsend Bldg.	22	12	Galv. and black steel.	Black steel vents in very bad condition, only a shell remaining. All badly corroded.	Black w. i. house drains starting to go.
2	Bowling Green Bldg.	21	16	Mixed galv. and black steel and w. i.	Black w. i. vents nearly all good; 2 steel vents bad.	Some drain pipes started to give way three years ago.
9	Washington Life Bldg.	21	19	Mixed galv. steel and galv. w. i.	1 w. i. vent very good; 6 steel very bad at top.	C. i. sewer had 2 joints with the lead forced out.
19	Exchange Court Bldg.	21	13	Mixed galv. steel and galv. w. i.	Galv. vents scaling at top; some galv. w. i. vents good as new.	Galv. steel, apparently good condition.
71	Hotel Martinique, old part	21	16	Mixed galv. steel and galv. w. i.	2 steel very good; 2 steel scaling at top; 4 w. i. good as new; 1 w. i. scaling.	Galv. steel, apparently good.
5	Empire Bldg.	20	20	Galv. steel.	2 steel very good; 7 steel bad.	1 joint in c. i. sewer leaking.
16	Standard Oil Bldg.	20	15	Mixed galv. steel and galv. w. i.	6 galv. steel in bad condition; 4 galv. w. i. in good condition.	Some c. i. joints bad.
17	Hudson Bldg.	20	16	Mixed galv. steel and galv. w. i.	4 steel bad; 2 w. i. pitted but good.	W. i. apparently in good condition.
64	St. James Bldg.	20	16	Mixed galv. and black steel, some black w. i.	Steel pipes scaling badly; w. i. pipes pitted but still good for many years.	Some drain pipes corroded at top; had to be renewed.
46	St. Paul Bldg.	20	25	Mixed black steel and black w. i.	2 black steel rusted to a shell; 5 black w. i. in good condition; 4 black w. i. pitted, scaling slightly.	1 black steel drain corroded and removed; 1 2-inch w. i. waste good.
49	R. G. Dun Bldg.	20	15	Mixed galv. steel and galv. w. i.	3 w. i. in good condition; 9 steel all bad at the top.	Screw-jointed sewer apparently good.
50	Vincent Bldg.	19	15	Galv. steel.	2 galv. steel vents scaling badly.	Screw-jointed sewer apparently good.
22	Century Bldg.	18	19	Galv. w. i.	All galv. w. i. vents in excellent condition.	C. i. sewer has two leaky joints.
28	American Exchange Nat'l. Bank Bldg.	18	17	Mixed galv. steel and galv. w. i.	9 galv. w. i. good; 2 steel bad; 1 steel slightly bad.	Sewers apparently in good condition.
69	Hotel Imperial Addition	18	17	Galv. steel.	2 galv. steel in good condition; 6 galv. steel scaling at top.	Galv. screw pipe sewer and c. i. good.
40	Broadway-Chambers Bldg.	18	18	Galv. steel.	4 galv. steel slightly pitted; 5 black steel badly scaling.	1 galv. steel sewer replaced, corroded.
8	Title Insurance Bldg.	16	15	Mixed galv. steel and galv. w. i.	5 galv. w. i. in good condition; 1 galv. steel scaling.	Sewers inaccessible.
30	Broadway-Maiden Lane Bldg.	16	18	Galv. w. i.	10 galv. w. i. vents in good condition.	Sewer w. i., apparently in good condition.
32	No. 180 Broadway Bldg.	16	12	Mixed galv. steel and galv. w. i.	3 galv. w. i. vents in good condition; 1 galv. w. i. bad.	Sewer c. i., but not seen.
61	Flatiron or Fuller Bldg.	16	23	Galv. w. i.	7 galv. w. i. in good condition; 3 galv. w. i. scaling slightly, but still good.	Sewer ex. h. c. i., apparently in good condition, no repairs.
14	New York Produce Ex. Bank Bldg.	15	12	Galv. w. i.	All galv. w. i. vents in excellent condition.	C. i. sewer; some joints have lead driven out.
65	Johnston Bldg.	15	12	Galv. steel.	Steel vents scaling at top, some very badly.	W. i. drain, apparently in good condition.
18	No. 42 Broadway Bldg.	14	21	Mixed galv. steel and galv. w. i.	6 galv. w. i. vents, very good; 2 galv. steel, badly pitted.	Inaccessible; trouble with calked joints.
38	City Hall Bldg.	14	12	Galv. steel.	3 galv. steel, fair, but rusting at top; 5 galv. steel scaling badly.	3 galv. steel, 1 galv. w. i. sewers, apparently in good condition.
67	Hotel Breslin.	14	13	Galv. w. i.	All galv. w. i. roof vents as good as new.	Galv. w. i. sewer, apparently in good condition.
6	Trinity Bldg.	13	21	Galv. w. i.	All galv. w. i. vents in good condition.	Sewer screw-jointed pipe, apparently in good condition.
31	Title Guarantee Trust Bldg.	13	9	Galv. steel.	Galv. steel vents in good condition.	Galv. steel in good condition; 1 drain gave way one year ago.
42	Barclay Bldg.	13	18	Galv. steel.	All galv. steel vents starting to scale at top.	Sewers: 1 galv. w. i., 1 steel, good condition.
58	Wanamaker Bldg., new part	13	14	Galv. w. i.	10 galv. w. i. vents in good condition.	Inaccessible, but no trouble.
81	Knickerbocker Hotel	12	15	Mixed galv. and black steel and w. i.	Some galv. steel scaling, some good; black steel vents scaling badly; black w. i. vents evenly pitted.	Could not get at drain lines.
10	Singer Bldg.	11	13	Mixed galv. steel and galv. w. i.	6 galv. steel, very good; 2 galv. steel bad, 1 w. i. bad.	Sewers not seen.
11	City Investing Bldg.	11	33	Galv. w. i.	All galv. w. i. lines in good condition.	Sewer in good condition.
24	No. 1 Wall St. Bldg.	11	18	Galv. w. i.	Galv. w. i. vents in good condition.	Sewer inaccessible.
7	U. S. Realty Bldg.	10	21	Galv. w. i.	All galv. w. i. vents in good condition.	Screw-jointed sewer apparently in good condition.
29	Lawyers Title and Trust Bldg.	10	18	Galv. w. i.	6 galv. w. i. vents in good condition.	Sewers apparently in good condition.
62	Fifth Avenue Bldg.	9	14	Galv. steel.	Galv. steel vents in good condition.	Sewer galv. steel, apparently in good condition.
72	Hotel Martinique, new addition.	9	16	Galv. steel.	4 galv. steel vents good condition; 7 galv. steel vents bad at top, scaling.	Sewer steel, apparently in good condition.
66	Centurian Bldg.	8	16	Galv. w. i.	All vents of genuine w. i. pipe, good as new.	No trouble with the sewers.
20	Columbia Trust Bldg.	7	22	Galv. steel.	Galv. steel vents good condition, some scaling at top.	Screw-jointed sewers, no trouble.
41	East River Savings Institution Bldg.	7	20	Galv. w. i.	6 galv. w. i. vents in good condition.	Galv. w. i. sewer, apparently in good condition.

As will be seen, this Table II gives the important buildings arranged in the order of their respective ages. It shows, what was to be expected: that the oldest buildings were fitted up with cast-iron pipe, first with light or standard pipe, and later on with extra-heavy pipe. The table, furthermore, brings out clearly the fact that, since

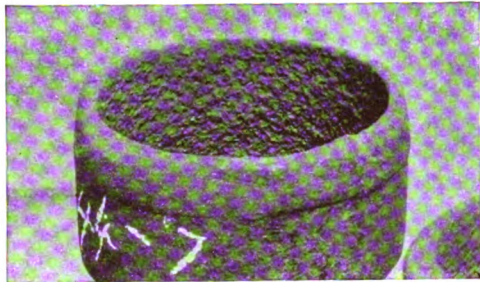


FIG. 1

the introduction of the screw-jointed system of house drainage, about the year 1881, preference has been, and is still given by architects and consulting engineers, to the use of welded pipe with screw joints. It confirms the fact that the latter system has such intrinsic merits and advantages as to render it superior to the cast-iron system. And this is true, not only of skyscraper buildings, but also of first-class residences and institutions.

About 1,676 roof vent pipes were inspected, about one-third of these being of cast iron, and two-thirds welded screw-jointed pipe. From these latter, over 500 samples were obtained and tested under the writer's direction, larger samples being referred, in doubtful cases, to the metallurgical and chemical departments of Columbia University for more complete analyses and report. A large number of vent pipes were selected to be photographed to show typical and actual conditions. The writer has a very large collection on file, from which a number were reproduced in the above-mentioned paper.

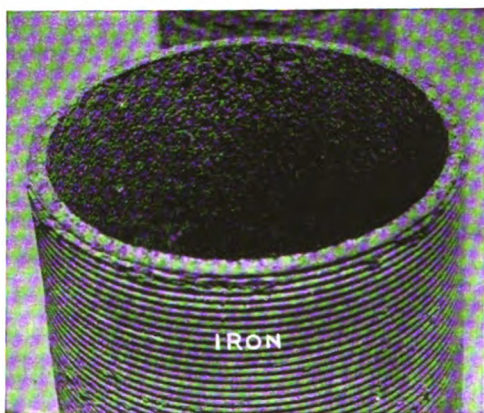


FIG. 2

Tests. The tests made to determine whether a pipe was of steel or of wrought iron were of two kinds: namely, a chemical, the manganese test, and a mechanical or physical, the fracture test. These, as well as other useful tests are described by the author in a paper published

in the *Journal of the Franklin Institute of Philadelphia* of January, 1919.

The manganese test is a comparatively simple one, and as it may be of interest for architects to know how they can readily tell whether a certain pipe is of wrought iron or of steel, a brief description follows. The test is based upon the fact that in the manufacture of steel pipe by the Bessemer process manganese is added to the molten metal in the retort, whereas no manganese is added to the wrought iron in the puddling process. The testing outfit comprises a wooden rack with glass test tubes, a bottle of pure nitric acid, a bottle of sodium bismuthate, an alcohol lamp, a steel pincer, and a small glass ladle. Test pieces of the metal are obtained after all rust, dirt, and galvanizing are first removed. One piece is dropped by means of the pincers into the test tube; ten or fifteen drops of nitric acid are added and the test



FIG. 3

tube heated over the flame of the alcohol lamp. The tube is then allowed to cool off, and a small ladleful of sodium bismuthate is added. The solution in the test tube then turns a decided pinkish color if manganese is present; if absent, a brown deposit occurs in the bottom of the tube and the solution does not discolor. The pinkish color indicates that the sample tested is steel, otherwise it is wrought iron. The entire test does not require more than a few minutes to make.

Results of the Investigation. (A) *As to the Character of Corrosion or Rusting.* The three different materials used for vent pipes showed two distinct forms of corrosion or rusting. The cast-iron pipes (see Fig. 1) and also nearly all the wrought-iron pipes were *pitted* or *pock-marked* (see Fig. 2), usually to a shallow depth, and the thickness of the pipe showed but a slight reduction. The steel pipes, on the other hand, exhibited a characteristic *flaking* or *scaling* (see Fig. 3). When these scales, the products of corrosion, are removed—and usually it is easy to do so by hand—there is often only a thin pipe shell left. Vent pipes having offsets often become choked up by rust scales falling off by their own weight. In the

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examples given further on, a few characteristic forms of corrosion of both steel and wrought-iron pipe will be illustrated. The photographs will give a good idea of the conditions revealed by the investigation; a description in words would fail to give an adequate idea of the degree of corrosion.

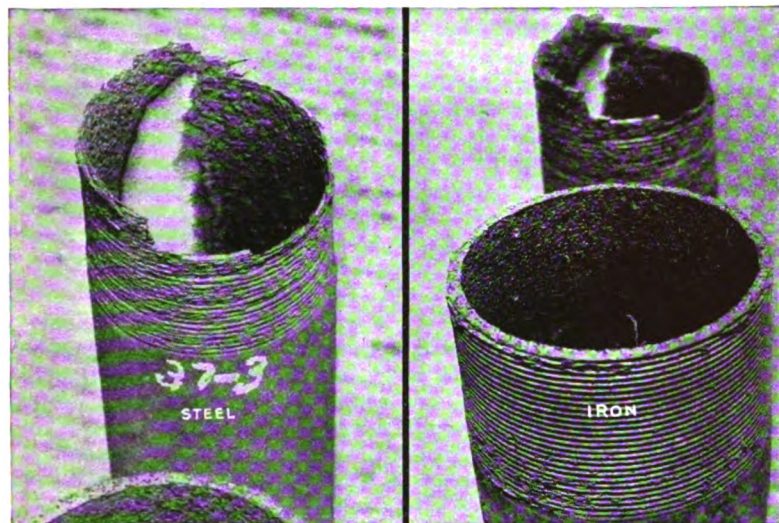


FIG. 4

(B) *As to the Durability of the Pipe.* The many photographs of pipe interiors obtained give a fair idea of the conditions observed, and prove, much better than words can, the surprisingly good condition of the cast-iron vents—some from thirty-five to fifty years old—the excellent showing made by the genuine wrought-iron pipe, even after twenty-seven years, and the inferior and very often extremely bad condition of the steel vents when in service twenty years or more.

The chief defect of the cast-iron piping is its lead-calked joint, which is not to be trusted as a permanent one, wherever large quantities of either hot water or steam pass through the pipes. Another objection, as is well known, is the greatly increased number of joints, which involve more labor in the erection and in the supporting of the pipe stacks.

The investigation showed conclusively that, in point of durability and liability to corrosion, steel pipe is inferior to both cast-iron and genuine wrought-iron pipe. Incidentally it appeared that the galvanizing coating is less of a protection against rust on steel than on wrought-iron pipes, and that usually it begins to disappear when steel pipe has been in service from ten to twenty years.

The evidence obtained from this careful inquiry leads to the conviction that genuine wrought-iron pipe is superior to steel pipe, and that the galvanizing lasts for a longer period of time on the former than on the latter. As corroborative evidence, Fig. 4 shows on the right-hand side of the illustration a black steel pipe and a black wrought-iron pipe on the roof of the Home Life Building, these pipes being located side by side and having had the identical kind and length of service, namely thirteen years. (This building is twenty-five years old and some of

the roof pipes are as old as the building, but those shown were replaced after the fire of 1904). The pipe in front is of wrought iron, the rear pipe of steel, and its bad condition is shown even better in the enlarged form in the left-hand picture.

Another striking example of the comparative life of the two kinds of pipe is shown in Fig. 5, pipe numbered 43-11 being of black wrought iron, and pipe 43-10 of steel, both located on the roof of the Langdon Building, formerly the Mutual Reserve Life Building. These pipes are in service twenty-four years and the wrought-iron pipe is almost as good as new, whereas the steel pipe is badly corroded and scaling at the top.

Such examples could be repeated many times, but space forbids giving more than the few shown.

Condition of the Drains. It was attempted to learn some facts as to the condition of the inside of the house sewer pipes, but the information gained was largely "hearsay" information, at least as regards the screw-jointed sewers. In the case of cast-iron sewers, the fact long known was confirmed (see Table II) that the lead-calked joints did not remain tight, becoming affected sooner or later,

and more or less, by changes in temperature.

Indiscriminate Use of Wrought-Iron and Steel Pipe. The many mixed steel and wrought-iron installations found point to the fact that in many cases the cheaper steel pipe was substituted for the more expensive wrought-iron pipe, specified, either intentionally, or because the wrought-iron pipe could not be supplied by the pipe jobbers in time, without retarding the completion of the building.

In looking over the propaganda literature issued by the cast-iron pipe manufacturers, one is struck with the

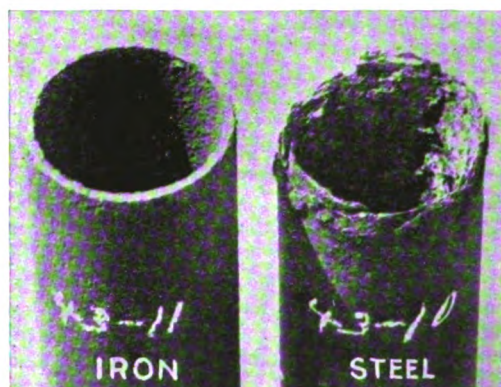


FIG. 5

fact that they have not always, in their investigations and reports, discriminated between steel and wrought-iron pipe.

The examination of some architects' specifications showed that wrought-iron and steel pipe were called for indiscriminately, no attention being given to the impor-

tant fact that genuine wrought-iron pipe must necessarily cost more than steel, but also that genuine wrought-iron pipe has shown itself, under a variety of service conditions, to be much more resistant to corrosion than steel pipe.

Conclusion. Inasmuch as prominent and costly buildings, both municipal and government buildings, as well as those erected by private enterprise, are expected to last from fifty to one hundred years, all building materials, and in particular those which are inaccessible after being installed, should have corresponding qualities of durability. For this reason, the conclusion is inevitable that the drainage system of permanent buildings should be either of standard or else of extra-heavy genuine wrought-iron pipe.

Acknowledgments. To the A. M. Byers Company, of Pittsburgh, Pa., the manufacturers of genuine wrought-

iron pipe, belongs the credit for the opportunity of making this investigation as to the life of pipe in house drainage service. Their instructions are worthy of being repeated here, viz., that "the facts found should be stated without fear, favor, or prejudice and with no omissions, even if detrimental to wrought-iron pipe." Acknowledgment should also be made to the engineers and superintendents of buildings visited for the permission and assistance given so freely to inspect the pipe systems.

It is believed that this paper answers, as far as it seems permissible to draw conclusions from actual evidence, the questions propounded at the beginning.

For information on Byers' **Wrought-Iron Pipe**, see **Industrial Section**, page vi.

Data on the availability of **Cast-Iron Pipe** is given by the Cast Iron Soil Pipe Manufacturers' Association, page xxxii of the **Industrial Section**.

December, 1918.

Roofing

In the Manual of the American Railway Engineering Association there is a brief but comprehensive discussion of the materials commonly employed as roof-coverings, and the suitable uses for them. The Manual was published in 1915, and, consequently, some of the statements and conclusions may possibly stand in need of revision. Nevertheless, the discussion covers the subject so completely and is so obviously free from prejudice that it serves admirably as a skeleton for the more detailed discussion which the importance of tight and durable roofs seems to demand. The whole section on "Roofing" is, therefore, reprinted from the Manual and will be supplemented in this and specification uses with additional data which, in some cases, will explain the bare conclusions set down.

In selecting roofing there should be considered:

1. Chance of leaks due to character of construction.
2. Probable life, including chance of damage by the elements and by wear from other causes.
3. Fire-resisting value.
4. Cost of maintenance.
5. First cost.
6. Cost of laying.

The important materials may be classified as follows: Bituminous substances, applied with felts made of rags, asbestos, or jute; clay and cement products and slate; metals.

They are laid in two general types—that for a flat roof, cemented together, as a coal-tar pitch and gravel roof or as an ordinary tin roof, and that for a steep roof, laid shingle fashion.

Bituminous Materials. The common bituminous materials are: Coal-tar pitch (the heavier distillates of bituminous coal); various asphalts (bitumens found naturally in the solid state); various petroleum products; various animal and vegetable residue.

Value. Their peculiar value lies in the fact that they are practically insoluble in water; that they are elastic, adhesive and comparatively stable.

Coal-Tar Pitch. Coal-tar pitch is easily affected by the heat and cold, is not acted upon at all by water, is

easily worked, and if properly protected is very stable. It should ordinarily be used as it comes from the still, "straight run," of a consistency suitable to the climate and to proper application.

Water Gas-Tar Pitch. Water gas-tar pitch, a by-product in the manufacture of water gas, which is enriched by gas from petroleum oils, resembles coal-tar. It is inferior to coal-tar for roofing purposes, and materials made from it should only be accepted in the low-priced products. It has more value as a saturant of felts than as a coating.

Asphalts. The asphalts are unsuitable for use in their natural state. They are ordinarily fluxed with products of petroleum.

Petroleums. The petroleums found in this country vary considerably, and grade roughly in quality, according to the location from east to west. The California oils, with their asphaltic base, furnish materials especially valuable for roofing.

Blown Oils. The blowing of air through a heated still of certain petroleum products produces "blown oils," which, while somewhat lacking in adhesive properties, are not easily susceptible to atmospheric changes and are especially valuable for roofing coatings.

Combinations. A single asphalt fluxed with a single oil is, for most purposes, a crude and unsatisfactory material. To secure the best results for any desired purpose, several oil and asphaltic substances must ordinarily be compounded. This requires skill and experience. Those properly made are invaluable for certain conditions, particularly for ready roofing, for which tar products are not suited.

The asphalt and petroleum products are not so readily affected by heat and cold as is coal-tar pitch, and lesser amounts of them are necessary to get good results. They are more expensive, require more skill in handling, and, when protected, some at least are, to some extent, liable to lose their life by drying out of the oil fluxes. Unprotected, they do much better than does coal-tar.

Felts. The bituminous substances are used with felts whose qualities considerably affect the roofing. The ordinary felt is made of rags, mainly cotton. "Wool felt" is a misnomer. Asbestos felts, as compared with the rag

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felt, act less as a carrying medium for the bitumens, but rather as a protection to the layers of bitumen. They are not suited for use with coal-tar pitch, but are not injured by hot asphalt. They are more expensive than rag felts, but have some peculiar and valuable qualities. Burlap made from jute decays easily when not protected. It is used in a few ready roofings with rag felts to increase their tensile strength, the need of which is not generally agreed to.

Built-Up Roofs. The bituminous roofings come ready to lay, or can be built up on the roof, using layers of saturated felt, mopped with pitch and properly protected.

The built-up roof is especially valuable for flat surfaces. It can be made as heavy as desired, and, if properly laid and of good materials, gives a roofing which by long experience has been shown to be economical and efficient.

When Most Economical, Tile or Brick Protection. Where the roof is to be subjected to wear, and where the character of the construction warrants the expense, flat tiles or brick should be used as a protective coating to the roofing instead of gravel or slag.

Coal-Tar in Preference to Asphalt. For the flat roof built under average conditions, coal-tar pitch is recommended in preference to asphalt products. It is more easily handled, requiring less skill, and, while more material is necessary, it is still cheaper, and, in our opinion, more certain results can usually be expected from its use when laid by the average contractor. The large amount of material, while heavy, has insulating value. Good results, however, can be expected from built-up roofs using good asphalt compounds, where laid by skilled workmen.

Built-Up Roofs on Steeper Slopes Difficult. When the slope of the roof is over 3 inches to the foot, the application of a built-up roof becomes more difficult for both coal-tar and asphalt, it being harder to get even mopping, and there is more chance of accident for the men. The desirable straight-run coal-tar pitch cannot be used, it being necessary to add some stiffening material, which is supposed to somewhat affect the life of the pitch. This must not be done except under supervision skilled in such work, and especial care must also be taken in the selection and application of the stone or slag coating.

Ready Roofing. Built-up roofs with a ready roofing for the coating sheet are proposed by various manufacturers. They should have their best value for steep slopes.

Advantages of Coal-Tar Pitch. The advantages of a coal-tar pitch built-up roofing are such that it is recommended that where a permanent roof is desired, and where the character of the structure allows, the building be so designed as to allow its use. A flat roof makes an economical structure and has small fire hazard. A pitch of from one-half to one inch to the foot is better than anything steeper.

Life of Roof. With proper materials and application, a life of from fifteen to twenty years can be expected with a flat roof.

Flashings—Avoiding Cheapness. No contracts should be made for a built-up roof without a complete and positive specification including flashings, and the contract prices should not be less than those of the materials specified, plus the cost of laying and a reasonable profit.

Inspection. Thorough inspection of workmanship and material is recommended.

Ready Roofing. *Better for Steeper Slopes.* The ready roofing has better value for the steeper roofs than for those of small pitch. It averages much cheaper than the built-up types. Most kinds, to get a fair life, require occasional recoating. For flat slopes they are hard to lay absolutely tight, and they are not economical for a permanent structure, but on slopes of from 3 inches to the foot up their use is more justifiable.

Recommended for Temporary and Inexpensive Buildings. Ready or prepared roofings are recommended for use on small, temporary, and other buildings, where the cost, considering maintenance of more expensive roofings, is not justified. They are also of value for steep slopes, where a built-up coal-tar cannot be used, and for locations where the skilled labor necessary for a built-up roof is not available. The steeper the slope the greater their relative value and the wider their economical field.

Heavier Varieties, Longer Life. The heavier varieties are, in general, the more desirable because of their chance for longer life and their greater fire-resisting value. In making selections, the reliability of the manufacturer, service tests, and the cost should be the governing factors.

Ready Roofing Shingles. On the steeper slopes the use of ready roofing shingles, properly reinforced so as to prevent curling up at the corners and fraying on the exposed edges and laid shingle fashion, is growing. They are supposed to give better results than the rolled goods, but cost more.

Data on the Philip Carey Company's materials for built-up and ready-to-lay **Roofing and Shingles** will be found on page x of the **Industrial Section**.

Slate and Tile. Slate makes a good roof if of good quality and properly watched. It breaks easily and cannot be walked on without danger to the slate.

Tile of good quality gives good results. It is not so tight as slate, but does not break easily. It has architectural value, and its use is growing with improvement in the product and in the variety of colors.

Six Inches Per Foot or Over. Slate and tile of suitable quality, properly protected and fastened, can be recommended on roofs with a pitch of 6 inches to the foot or over, where expense is not the governing feature, and where they aid in producing the desired architectural effect, except that where there is much chance of driving snow, 8 inches to the foot should be the flattest slope allowed.

Asbestos Shingles. Shingles of asbestos and Portland cement are of value. They have some elasticity and can be laid tighter than slate. They come in a variety of shapes and colors and can be laid in various patterns.

Wood Shingles. Wood shingles are not desirable for a railroad structure on account of fire hazard.

Cement Tile. Small cement tile are not considered of much value, being brittle. Large cement tile, reinforced, laid without sheathing directly on the purlins, are in use on shops and freight houses and seem to have considerable merit. Glass can be introduced into them, avoiding the expense of skylights. It is not deemed advisable to recommend them for plastered or heated buildings or offices, where an occasional slight leak would be disastrous.

Metallic Roofings. Metallic roofings with steel as a base are not recommended for general use on permanent buildings.

Continual Maintenance. They require continual maintenance. Galvanizing of steel seems worth the expense. Tests of lead-covered steel sheets indicate good results.

Unheated Buildings. Large sheets of corrugated galvanized steel can sometimes be used economically where the buildings are not to be heated.

Metallic Shingles. Small metallic shingles of copper, tin, galvanized steel plate or pure iron are not recommended for general use. They are very light in weight, but serve a purpose in the dry climate of the Southwest.

Pure Iron Base. In using metals every effort should be made to secure those of good quality. The pure irons have value. Their virtues have, perhaps, been overstated, but they are not expensive, and experience seems to indicate considerable economy by their use as a substitute for wrought-iron and steel.

For information on laying "Target-and-Arrow" Roofing Tin, manufactured by the N. & G. Taylor Company, see *Industrial Section*, page xi.

General. *Thorough Workmanship.* In the laying of

all roofings, thoroughness in preparation of flashings and work around openings is of vital importance.

To get a satisfactory roof there must be a stable structure. Careful attention must be given to the design of gutters, and, with some types particularly, there must be systematic inspection and regular repairs. In buying a roof, its fire-resisting qualities, to a considerable extent depending on the quantity of the material as well as its quality, are of great importance. A building covered with a heavy coal-tar pitch and gravel roofing is a better fire-risk than one covered with corrugated steel sheets or with a light ready roofing.

Guarantees Unreliable. The practice of depending merely upon guarantees in selecting roofings cannot be trusted to secure proper results.

Saving in First Cost. The annoyance and indirect expense caused by leaky, short-lived roofs are rarely compensated for by any possible saving in first cost.

For the fire-resistant classification on *Roof Coverings* of the Underwriters' Laboratories, see page xii of the *Industrial Section*.

The Lighting of Buildings. II

Preliminary

In the May issue of the Journal we discussed briefly the fundamental principles of good lighting. In this issue we propose to discuss still more briefly a few of the practical means of putting these principles into practice.

Here again the subject will be presented in its most elementary form, so as to establish the fundamental requirements that must be met by every lighting arrangement, utilitarian or otherwise.

It cannot be too strongly emphasized that every lighting arrangement that is aesthetically correct, *ipso facto*, is necessarily physiologically correct. The converse is not true. As was pointed out in the May issue, to be aesthetically correct, a lighting arrangement must permit us to see properly and, doing that, it meets the conditions set by the eye. (See "The Relation of Architectural Principles to Illuminating Engineering Practice," Bassett Jones, *Trans. I.E.S.*, Vol. 3, No. 1, p. 9.)

Lighting Fixtures

Lighting is not merely a matter of lighting fixtures. In itself, a fixture may be a beautiful thing to look at when illuminated by some other source—daylight, for instance. In design it may be perfectly in harmony with its environment. Yet it may, and, as commonly conceived and selected, usually does, fail utterly in its function as a source of pleasing and comfortable illumination.

Because fixtures are thus produced and so accepted by the architect, there is no necessity for the fixture maker to know anything about light, and so he rarely does. The fixture manufacturer will never become more than a maker of more or less beautiful objects in metal and glass until it is demanded of him that he provide good lighting as well. It is a fact that many fixture manufacturers who build only competitive commercial fixtures produce vastly better lighting arrangements than those who pride themselves excessively on their tone as artisans in metal.

After all, glass, not brass, is fundamental in illuminating

devices, and metal is required only to support and hold the glass in proper relation to the lamp.

Silk and parchments of various kinds can be used in place of glass with effect, and in many cases desirably so. Yet even here the fundamentals of proper lighting must control the result.

Thus, in many rooms, to conserve the character of the design the candle type fixture must be used. Usually the following thought is to imitate candle flames with the lamps. But this cannot be done, for, by no stretching of the imagination can any electric lamp be said to even remotely resemble a candle flame. Its brightness is enormously greater—dangerously so. Furthermore, the color and quality of light emitted by the two sources are entirely different.

The only recourse is to use either real candles and so be totally impractical, or to put circular shades about the lamps to reduce their brightness and to modify the color of the light. This, of course, is often done. But so little imagination is used that commonly the result is no better and sometimes worse.

It is not necessary that the shade so used be very opaque. It is rather more interesting to be able to see the filament dimly and greatly reduced in brightness. It gives a center to the light source and so avoids any appearance of a luminous mass perched on the end of the candle. But then the shade itself must be fairly large if its brightness is not to be a source of difficulty. If the shade be made large enough, say as much as 4½ inches across at the top when used with lamps 40 watts and less in rating, a small glass reflector looking upward may be fastened to the candle top and the shade supported from its upper edge. Thus most of the light will be thrown upward to the ceiling and conserved, permitting the use of smaller lamps. This keeps the meter from being overworked.

The lamp, being hidden from view by the shade, whether or not the auxiliary reflector be used, can be a standard straight-sided lamp. This also introduces economy in cost and maintenance. Lamp bulbs are not made in

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certain shapes and sizes by accident, or otherwise without reason. Avoid frosted lamps, the smaller round bulb lamps, and candelabra base lamps wherever possible. They are neither practical nor economical.

The above account gives merely one tried way of making one type of ornamental fixture practical and do its work economically. There are many types of fixtures and many ways of skinning a cat.

Reflection

Before we go further into the question of fixture equipment, it may be well to explain what is meant by reflection. To do this a diagram will help.

When light falls on any surface or on a surface separating two media having different optical characters, some of the light passes through the surface and is either transmitted, or if the material beyond the surface be optically dense, it is absorbed. The remainder of the light is reflected.

Reflection at such a surface takes place in either one of two ways, or a combination of both, depending on the character of the surface. If the surface be highly polished and very dense, as in a mirror, the type of reflection is called direct or *specular*. All reflected rays bear the same relation to each other after reflection that they did before reflection. Thus, in Fig. 1 (Direct Reflection), the ray R_1 strikes the surface S_1-S_2 at F and is reflected to R_2 in such a manner that the angle between R_1 and the surface is the same as the angle between R_2 and the surface.

If, however, the surface be rough, as a piece of blotting paper, then the relation between the reflected rays and the incident rays is not the same. The rays are reflected at all angles and the distribution of the reflected rays depends on the character of the surface. Such reflection is called *diffuse reflection*.

If the surface be perfectly matt in character, then the angle of the incident ray has little or no result on the distribution of the reflected rays. The distribution of the reflected rays is always the same. Such reflection is called perfectly diffused reflection. Thus, in Fig. 1 (Theoretical Diffusion), no matter what the angle of the incident ray, the reflected rays are always distributed so that if a figure be drawn in which the length of the reflected rays R_1, R_2, R_3 , in any direction be made proportional to the intensity of the reflected light in that direction, the curve drawn so as to enclose all such rays will be a circle tangent to the surface.

Even the best mirror shows slight diffusion, else it could not be seen except from the direction in which light rays are reflected.

Every common surface, such as painted walls, wood walls, opal glass, etched glass, china enamel, etched or rough metal, shows some specular or direct reflection, so that the distribution curve of intensity of reflected light is not a circle, but is generally more or less elliptic in form, its inclination to the surface depending on the angle the incident light makes with the surface.

The ratio of the amount of light reflected from a surface to the amount of light received on the surface is called its *reflection factor*. A knowledge of the reflection factors of the various materials used in interior finishes, window glasses, skylight glasses, and of the materials used in lighting

fixture equipment is essential to any rational attempt to lay out lighting arrangements. As we saw in the May issue, the reflection factor of interior finishes is fundamental in illumination.

But the measurement of the reflection factor, particularly of colored surfaces, is by no means a simple matter. When the reflection factor of pigments is being determined, it is first necessary to establish some standard method of preparing the samples for measurement that will give consistent results. And in the use of the values obtained it is necessary to know how far the standard is varied by the

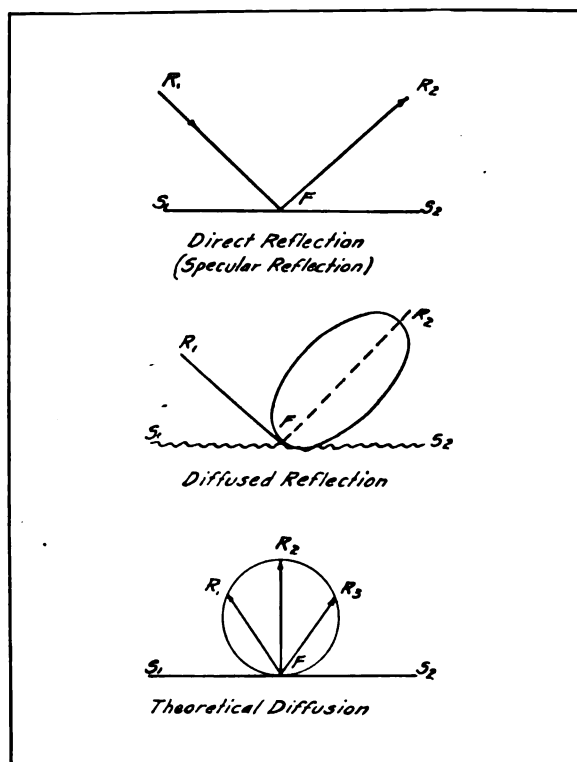


FIG. 1. Reflection

various methods of application of the material, and, particularly in the case of paints, the effect of the character of the surface to which the paint is applied and the effect of aging.

The reflection factor of a few commonly used materials follows. (In all cases the measurement was made in an integrating sphere photometer, angle of incidence 45 degrees, checked in several cases by calculations based on point by point measurements taken on a bar photometer. The comparison standard was a block of freshly scraped carbonate of magnesia.)

Material	Thickness Inches	Refl. Factor	Trans- mission
Carbonate of Magnesia	—	0.88	—
Baked China Enamel on Steel	—	0.72	—
Belgian S. T. Mirror	0.085	0.80	—
S. T. Clear Crystal Plate	0.129	0.11	0.88
White Milk Dense Opal Sheet Blown and Flattened	0.115	0.74	0.12
White "Art" Opal (Equalite)	0.145	0.66	0.26
Flashed White Opal, Medium Density	0.088	0.48	0.43
White Blotting Paper	—	0.67	—

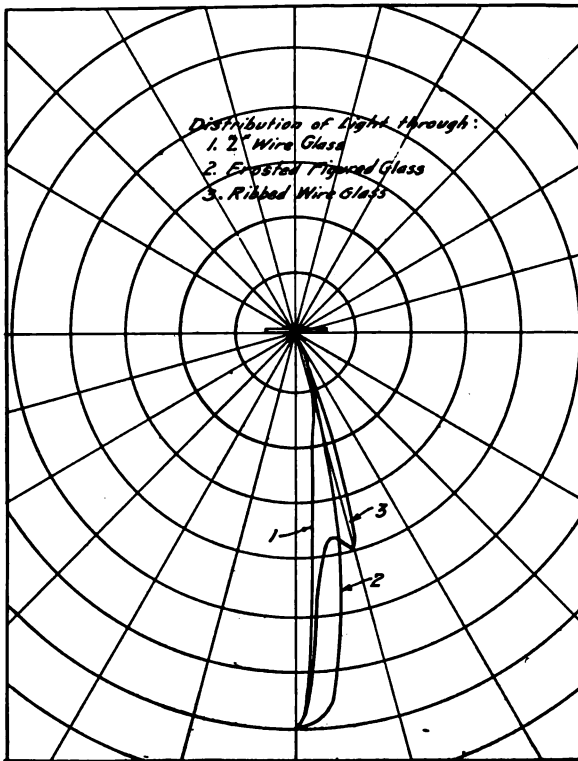


FIG. 2. Transmission Through Glass

Material	Thickness Inches	Ref. Factor	Transmission
White Plaster, Fresh, Unpainted	—	0.74	—
"Art Fire" Opal (Rough Side)	0.129	0.17	0.15
"Art Fire" Opal (Smooth Side)	0.129	0.29	0.13
Rough Surface Crystal (Rough Side) (Deflex No. 12)	0.164	0.13	0.90
Same, (Smooth Side)	0.164	0.25	0.66
Clear Wire Plate	0.275	—	0.92
S. T. Clear (Window)	0.125	—	0.85

The following values for paints are important. In all cases the samples were three-coat work applied over an egg-shell finish, red lead primer on black iron.

Material	Reflection Factor	
	When Fresh	After Aging One Year
Special White Enamel	76	73
White Lithopone	77	72
White Kalsomine	74	67
White Lead and Oil	75	67
Special Light Green Lithopone	52	48

The loss of reflection factor in white lead and oil and in kalsomine is large, also progressive—about 15% a year.

For the treatment of **Reflecting Surfaces**, see J. G. Wilson Corp., Diffuselite Dept., page viii, **Industrial Section**.

Transmission

If the surface on which the light strikes be glass, then some of the light is transmitted, and the distribution of the transmitted light depends on the character of the emitting surface and the body of the glass, either one or both. Thus clear glass, etched or otherwise surface-roughed, will diffuse the transmitted light, and so will opal glass with smooth or polished surfaces. The amount of diffusion also depends on the distribution of the light received on the glass.

The character of the diffusion in transmission produced by a few rough-surfaced clear glasses with incident light

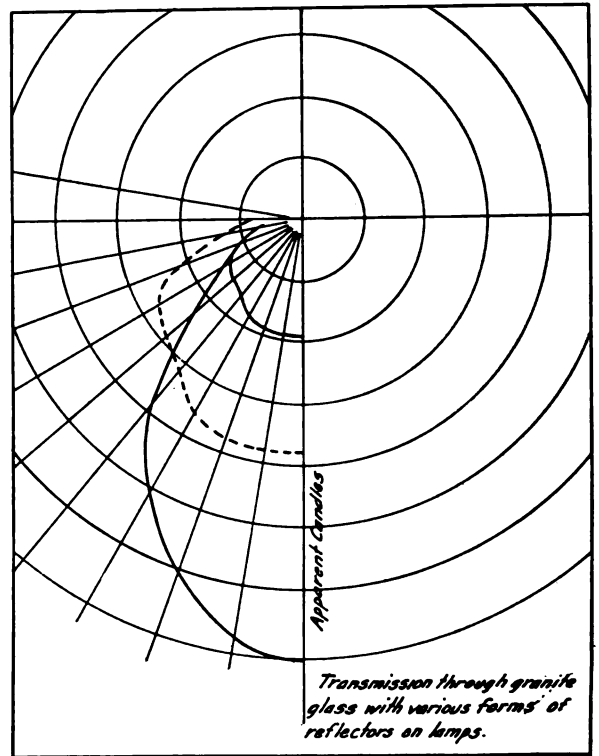


FIG. 3. Transmission Through Glass

perpendicular to the glass surface is shown in Fig. 2. And in Fig. 3 is shown the diffusion obtained by similar glasses when the incident light is itself more or less diffused. The diffusion shown in Fig. 3 is very similar to the diffusion produced by opal glass with smooth surfaces when the incident light is perpendicular.

A rather interesting and important case is shown in Fig. 4, where the glass is ribbed in 90-degree prisms on one side only. Curves are here given for two such glasses. It is seen that both the transmission factor and the diffusion differ widely, depending on which side of the glass receives the incident light. In one case 46 per cent of the light is transmitted when the incident light is received on the smooth side, while 91 per cent is transmitted when the incident light is received on the ribbed side. An increase of 100 per cent. Yet such glasses have been frequently used in skylights with the ribbed side down, resulting in an enormous loss of light.

In the table of reflection factors above, some data on transmission factors were given. Some further important data with incident light (diffused) from the entire sky follows:

Material	Thickness Inches	Transmission
Rough Surface Crystal (Deflex No. 12) (Light Incident on Smooth Side)	0.164	0.58
Clear S. T. Frosted	0.125	0.70
Granite Wired	0.275	0.65
Large (90-Degree Prism) Ribbed Wired (Light Incident on Ribbed Side)	0.275	0.66
S. T. Granite (Light Incident on Smooth Side)	0.164	0.72
S. T. Clear (Window)	0.125	0.88

On comparing the values given in the two tables, it is obvious that the amount of light transmitted through

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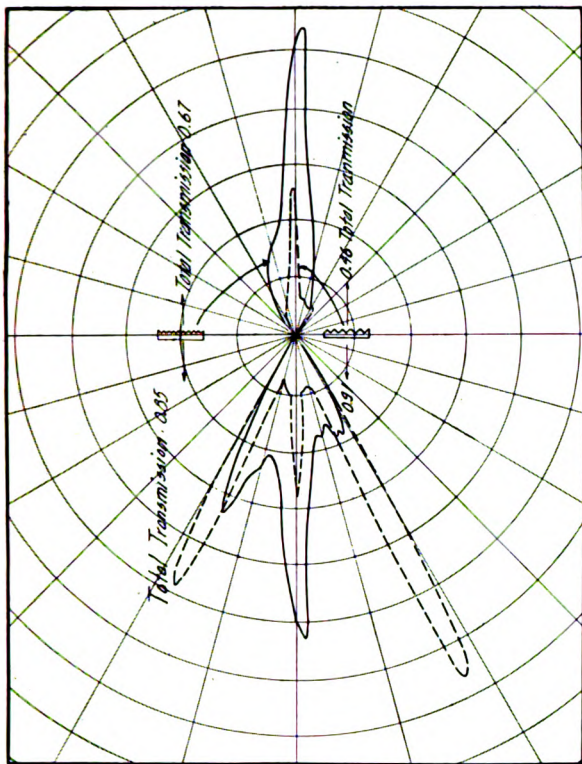


FIG. 4. Polar Diagram of Intensities Transmitted Light Through Ribbed Glass Incident Light Normal

figured or surface-treated glasses is a function of the character of the incident light; a fact that must be considered in using any data published on the subject. The amount of light transmitted also depends upon which side of the surface receives the light. Obviously, the selection of treated glasses for windows and skylights should be carefully made, and with understanding of the problem in hand.

Reference: Mississippi Wire Glass Company, page xxi of **Industrial Section**.

Reflectors

The brightness of a lamp may be reduced in two ways. The first is to use a protective covering, or enclosure, so dense optically that most of the light is absorbed and lost—a sort of "light bottle." This is the result in by far the larger number of lamp enclosures. Even when such en-

closures are in the form of "reflectors" their contours are commonly designed to look well rather than give any desirable distribution to the light emitted by the lamp. Looks are all right, of course, but then one wants the lamps to do more than become merely bright spots in a decorative scheme. They must also give illumination where it is wanted. All of which seems obvious, but is commonly not the result obtained by the usual "decorative" lighting fixture and its equipment.

The second method of reducing lamp brightness is to surround the lamp with a large diffusing enclosure of low absorbing quality, so that but little light is lost by transmission. This enclosure then becomes the light source, but, its area being large, the amount of light emitted per unit area is small and its brightness is low. It would, however, require a very large enclosure of this sort to reduce the brightness of, say, a 200-watt lamp to a safe limit. The use of enclosures of this kind which are too small is common.

Of course, the material in reflectors is often made very dense and even completely opaque, so that the reflector will *reflect* light and not absorb it (as was explained in the design of the basins used in the example given in the May issue). Or, again, some transmission may be desirable as in the case of direct lighting with the reflectors near the ceiling, in which case light on the ceiling is needed to reduce the brightness contrast between the otherwise darker ceiling and the bright open reflector bottoms.

And while we are on this subject of *direct* lighting it may be well to say that, generally speaking, the nearer to the ceiling the reflectors are, the better the results, particularly if the walls and ceiling be light in color. There seems to be a popular fallacy among fixture makers that the lower down the lamps, the more effective is the fixture. If the reader is struggling with the pendant or drop cord nuisance, try the result of shortening the suspensions as much as possible.

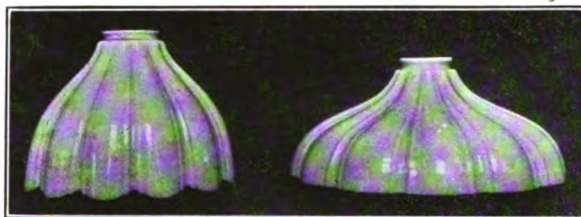


FIG. 5. Deep Bowl—Glass

FIG. 6. Flare—Glass



FIG. 7a
Deep Bowl—Steel Extensive Distribution

FIG. 9
Angle—Steel Assymmetric Distribution

FIG. 7b
Deep Bowl—Steel Intensive Distribution

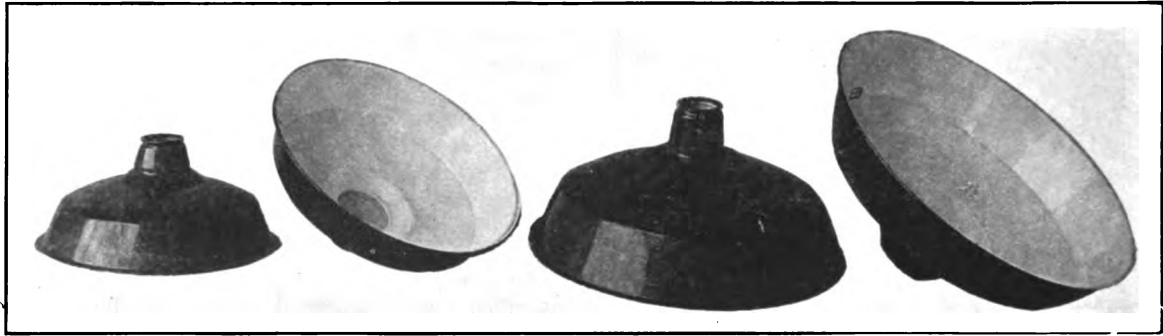


FIG. 8. R. L. M. Standard—Steel

Then, if you do not get enough light, put in larger lamps and reflectors and see if the illumination is not pleasanter and easier on your eyes.

Reflectors are commonly built in three styles, *deep bowl*, *flare*, and *angle*. The first two in glass, enameled steel and mirror, and all three in steel and mirror. See Figs. 5 to 9. The deep bowl types give a wide light distribution and effectually hide the lamp from view, the *intensive* type giving a narrower distribution than the *extensive* type. The flare types tend to concentrate the light below the lamp, and do not shield the lamps from view. The compromise steel type shown in Fig. 8 is commonly used for lighting large manufacturing areas, but, where hazard of breakage does not exist, the deep bowl glass reflectors may be used equally well, with the advantage of having some light on the ceiling.

Glass reflectors are preferably made of dense white opal glass without surface treatment to hold dirt. Etching and sand blasting are unsatisfactory as methods of obtaining diffusion.

Steel reflectors are better lined with white baked porcelain enamel. The aluminum finish, once popular, is now happily going out of use, and paint as a reflecting finish in reflectors is poor economy.

The reflectors or bowls used with semi-indirect fixtures like glass reflectors should be made of dense opal glass with highly polished interior surfaces. Do not be afraid to get the glass too dense, and, unless appearance counts more than light, do not restrict the opening, letting the shape always be fatter than a hemisphere, or, if a segment of a sphere, then less than a hemisphere. Avoid perpendicular reflecting surfaces at or near the plane of the lamp filament. Let the light out of the basin.

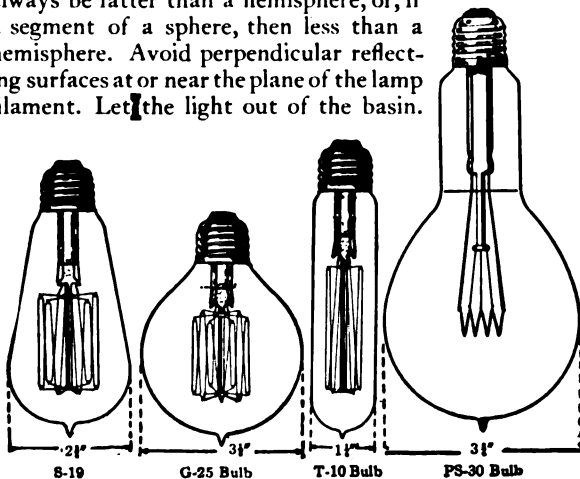


FIG. 10. Types of Lamps

A well-designed semi-indirect fixture should emit at least 80 per cent of the light emitted by the lamp, and all but a small amount of the light should go up, not down. As the ceiling is the principal lighting source, the fixtures should be hung with relation to the ceiling and not to the floor.

For special reflectors, see I. P. Frink, Inc., page xxx of the Industrial Section.

Lamps

Standard incandescent lamps, not considering miniatures, decorative lamps, or lamps for special purposes, are made in four styles (Fig. 10). These are the straight-side or Style S bulb, the round or Style G bulb, the tubular or Style T bulb, and the pear-shape or Style PS bulb. The Style G and Style T bulb lamps should not be used where the S or PS bulbs will answer the purpose.

The sizes of bulbs are their diameters given in eighths ($\frac{1}{8}$) inch. Thus an S-19 bulb is a Style S bulb, the round part of which is 19 eighths inches in diameter.

The Style S bulb is used only for Type B or vacuum lamps in which the filament burns in a vacuum. The Style PS bulb is used only in Type C or gas-filled lamps in which the filament burns in an inert gas. The Type C or gas-filled lamps are more efficient than the Type B or vacuum lamps because, in the former, the filament burns at a much higher temperature and is therefore much brighter. It is extremely dangerous to the eyes to use the Type C lamp exposed wherever it may come well within the field of vision.

Lamps are rated in terms of the watts of electric power they consume at normal voltage. For burning on 110-volt circuits, the standard ratings extend from 10 watts to 1,000 watts. Up to 60 watts, the standard lamp is Type B in S bulbs. From 75 watts to 1,000 watts, the standard lamps are Type C lamps in PS bulbs. The tendency is to reduce the line of Type B lamp ratings as the smaller sizes in Type C lamps are developed.

Care should be exercised in obtaining lamps of the proper voltage for the circuits on which they are to burn. A slight difference in voltage causes a considerable difference in the light emitted. Increased line voltage means decreased lamp life.

Final

It is hoped that the reader who has patiently followed these articles to the end will have learned that modern lighting as an art is not a simple problem, and that it deserves study by the architect, or, at least, his appreciation of its difficulties and his aid in overcoming them.

General Index to Structural Service Department

Light-face numerals refer to information published in the Journal during 1919. Black-face serials refer to the Structural Service Book, Volume I, a copy of which is in the possession of every architect, engineer, builder, or manufacturer who subscribes to the Journal.

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Architectural Education from an English Point of View

By ROBERT ATKINSON

Head Master in the School of the Architectural Association, London

HAD the question been asked previous to this great struggle, what influence warfare would have upon such an essentially peaceful art as architecture, the reply would undoubtedly have been—apart from dislocation and possible complete stoppage—*nothing*, yet how different has been the experience. For a profession which for untold years had plowed its peaceful and only too well-worn furrow, to be suddenly transformed into a more or less useful branch of a conscriptive national machine under stress of war conditions, is a trial which only a homogeneous mass would be expected to survive—and with what result! The immediate requirement of great numbers of temporary buildings, hutting for camps, hospitals, depots, works, sheds, and the like, all to be erected in the quickest possible time from the stocks of materials available, presented problems in which organization and ingenuity in using the materials, or inventing new materials, played a much more important part than the designing or drawings which usually occupy the architect's time. The work needed to be executed in close touch with manufacturers or their engineers, in the fitting in of machinery, and needed also great knowledge of the working capabilities of materials so that economy might be carried to its greatest possible limit, in fact the work approached almost as closely to the engineering as to the architectural side, not counting the great powers of organization necessary to avoid delay.

There arose at once a clamor for trained men of sufficient capacity and virility to jump into

strange places and to tackle new problems as they developed, a chance, one would have thought, for the architect, yet with very few exceptions it was the engineer and not the architect who filled the breach. The architect proved to be hidebound to a degree, incapable of hustle, and lacking in fertility; the engineer, on the contrary, proved to be more practical, more energetic, more receptive, and a sufficiently good draughtsman for the occasion.

As a matter of fact, the life of the nation depended not a little upon its munition buildings and the housing of its workers. So enormous were the demands that existing buildings utterly failed to keep pace, and the architect, at first so indispensable, latterly so ignored, in failing to keep his place suffered the usual law of the elimination of the unfitted. What was the cause of such a debacle?

Now architects are just as patriotic as men in other sections of public life, and the rank and file were at the front before the need for their services was perceived at the rear; once lost in the maze of millions their recall became difficult. Left—the middle-aged men and the crocks—it is cold comfort to think that had the vitality of the younger members been pitted against the young or old engineers, the result would have been different. (And, personally, I believe that the Profession contains as much good material as any other.) As it is, a scapegoat must be found—the deficiency can, it is said, only have been the result of a defective system of education. The engineers, by their system of education, their scientific methods, their elimination

of temperament and of sentiment, their constant experiments with new methods, with new materials, have kept alive the spark of evolution. Within their field they have constantly progressed, thus keeping the faculties of their students on the alert, with the result that they were found ready to undertake new methods with a fair chance of success. Well, then, let it be called the fault of the education of the architect, but, this being agreed, it would perhaps be as well to point out that it is not very logical to blame the education of the present for the defects of men educated twenty, thirty, or forty years in the past, unless it be taken for granted that no changes in system have occurred during the intervening period, an assumption which I am afraid is very likely to occur, a defect in outlook which is consistent with the primary causes of the failure. What are the defects of our educational system? In the past they have been just those things which with cumulative effect have broken down under the strain of evolution, "*blindness and conservatism.*"

To find the root of the evil, one must go back a very long way into the history of the Profession, to those days when progress began to move in the ratio of the square of the distance, at first slowly enough but with ever-increasing velocity, and eventually became too rapid to brake or to overtake. I mean the days when engineering first began to assume a definite being; when the great railways began to be built; when machinery became possible; when the whole life of the country passed in a decade from the eighteenth to the nineteenth century—the years between 1830–1840; that was the period of the architect's greatest opportunity, had he but seized it. Then the architect was engineer as well. True, some men did rise to the occasion. Many of the early railway bridges, station buildings, tunnel entrances, and the like, are quite equal to anything of their period, but the average architect was too conservative, too steeped in tradition, or, whisper it not, not fitted by his training to battle and cope with the complicated requirements of new-fangled ideas. Then, the great heyday of the pupilage system had just been passed; great architects like Sir John Soane and Wyatt ran offices which were art schools as well; the principals collected casts and drawings of all notable buildings, and of their ornamental details, which their pupils spent a good

part of their seven years' articles in drawing and copying; building work progressed slowly and gave ample time for leisurely designing and redesigning, model making, and experimenting, and the principal had sufficient interest in his disciples to ensure their getting what was in their day a sound insight into practical affairs, and generally fathered his pupils so that none might disgrace his office.

Unfortunately, the very success of the system, became, in the hands of more feeble successors, the fetters which prevented any departure from traditional usage, and just at this time, when the introduction of new materials demanded new methods, no efforts were made collectively to provide the technical training necessary, and so thenceforth all great engineering works (than which nothing finer can be imagined for architectural scope—great bridges and viaducts, great stations, great works of all kinds) were entrusted to the engineer without protest, while the architect continued to dream of his cathedrals, of his mansions, of his aristocratic patrons, and passed by as valueless the only vital element of his profession, i. e., *evolution*. Such was the beginning of the evil. The same tale could be repeated year by year until quite recently, how recently one dare not say—the same ignorance of progress, the same lack of foresight, the same defective preparation (except for traditional work), the same atmosphere of sanctity and unapproachableness. If there is any person on earth who really thinks he deserves a halo, it is "The Architect."

The various periodical offshoots from the Profession—the civil engineer, the quantity surveyor, the steel-work specialist, the ferro-concrete specialist, the heating and ventilation specialist, the garden specialist, the decorative specialist, the town-planning specialist—all represent evolution in progress, and each draws off more of the life-blood of an already impoverished body.

Architecture has become such a complicated affair that the sheer impossibility of any one man mastering its ramifications in a single lifetime is practically admitted. Can anything, therefore, be done which will prevent the detachment by centrifugal force of further sections of the mass? To provide any real remedy, some system must be devised which will allow the greatest possible latitude in specialization and yet retain within

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the fringes of the Profession those persons whom inclination or chance has thrown into particular "lines"—a network based upon a sound common general education which will provide a common denominator for all our divergent ideals and encourage rather than discourage changes due to public evolution. Our system of education has been incorrect in outlook; we have instilled into our pupils too much the idea that a certain amount of knowledge and certain examinations passed were all that was necessary—a daily quota of cramming to produce the perfect architect, just as it does or does not the lawyer or the doctor. The only useful man in the world today is the one who can adapt himself to his particular work and do it well, and as no amount of education in the world can ever teach a man everything, it is surely the logical thing, besides teaching him as much as possible, to incidentally teach him how to teach himself to develop his powers of logical reasoning to such an extent that no matter what problem he may come up against, he will be capable of learning all about it and eventually solving it.

Education which does not leave a man capable of providing for himself, of placing him with his feet well planted on the road to knowledge, is not "evolution" but "stagnation."

I admit that not all are capable of assisting evolution, that the plodder is useful to carry out the work of the genius, but until each is tried out, who is to say which is the genius, and how is the genius to be discovered without the necessary opportunity? It is so easy to teach by rote, and so difficult to teach by inspiration, that, perhaps, this high ideal is unobtainable. Well, be it so, the argument against effort usually degenerates into the question "Is life worth living?"

So much for the educational defects, but is there not really a much greater evil still—*ignorance of organization*? The power of organization in a man is, I suppose, the power of assimilation, the unraveling of chaos, and of thinking in sequence, of determining the use to which the education he has been given can be put, of how to apply his knowledge to problems outside routine, to avoid timidity bred by lack of confidence, of ignorance of business methods engendered by a too close application to the drawing-board, of a fatal lack of enterprise gradually to be transformed into lethargy by years of

abstinence; in a word, to think of *life*, to study life itself, and to realize the important bearing which the most trivial habits of our fellow creatures have upon important problems, and then to reason out future actions by drawing upon the knowledge thus acquired of the probable course of events and to provide for their reception as they occur. *Organization*, then, is bred by experience, fortified by trial, and confirmed by success—it is not rash guesswork or mad haste.

To return to education. Education, I take it, is not so much the transmission of knowledge from one person to another as it is the transmission of experience thus to enable a pupil when certain phenomena occur to recognize the symptoms and to be able to administer an antidote. His (the student's) knowledge is a personal matter built upon his experiences, the result, perhaps, of experiments conducted first according to the rules instilled and afterwards modified according to his personal success or failure. Education should therefore be conducted in such a way as to stimulate knowledge by the pupil's own experiments. The blind acceptance of the tenets expounded by the teacher cannot in the end be of any practical value, unless accompanied by the common-sense value of application. Likewise, human nature being what it is, it is valueless to expound education in any but an interesting form. After a certain time any subject may become interesting for its own sake, but up to that point it is for the instructors not to lose sight of the fact that the young mind needs constant stimulus and excitement. Again, certain subjects—for instance Historical Architecture—are easily made interesting, whereas technical subjects are difficult to make so, yet the latter are the more vital, and only an instructor with the proper gifts can hope to create interest in them. It is in the later stages where the real value of evolutionary progress arises and *sans volonte* what can be accomplished?

Therefore I conclude that lectures on highly technical subjects are valueless unless short and closely followed by individual experiments, assisted by the lecturer, on the ground covered. It is only by constant application that instruction can be translated into work of value.

Then, as to the subjects taught and how to teach them, architectural practice divides itself readily into three divisions: Design and

Draughtsmanship, Constructional Engineering, Application. Now, I agree entirely with Professor Lethaby who says that "one may only teach science, but that taste, imagination and ingenuity of application and so on may only be directed and stimulated." It would then, perhaps, be as well to take stock of our subjects and see what this means.

Design in architecture is a combination of historical knowledge, of constructive knowledge, of taste, and application—an even balance of two scientific subjects and two temperamental subjects. The first two may be taught; the second two merely directed. Of what do they actually consist?

Historical knowledge is really archæology, the history of peoples and of their works, of their ornament and of their planning to meet their particular needs and of their methods of life, a subject full of interest, easily assimilated, very useful in broadening the mind and in providing a foundation for future work—above all a simple question of facts.

Constructive knowledge is likewise archæology to a very great extent, the study of historical materials, executed works, and methods of use. Again facts and figures.

Taste, however, is a personal element liable to great variations and on which a standard is only arbitrarily set by a consensus of opinion and which is very liable to changes—witness the resurrection of the Gothic and Classical schools at intervals.

Therefore, what part does taste play in architecture? Despite its illusive qualities, its part is very important, whilst its very shades of value provide that individuality which is our modern birthright; but since one cannot teach taste, what part does it take in our education? Well, for instance, historical architecture is pure archæology until one turns on the tap of taste. Taste discriminates between good ornament and bad; determines whether proportions are good or not; weighs each century of progress with the preceding; and propounds the advancement or retrogression of art.

The education of taste is an uncertain quality; we must study all examples of admitted good taste, hear their good and bad qualities from a competent person, and thus find out whether our natural taste is in agreement with the consensus of opinion; most probably it will not be so, at any rate in the beginning, and even if at

the end it disagrees considerably, it is not a bad thing for our individuality. It is a peculiarity, perhaps, noticed by others that in the raw state, on any particular subject in art, one's taste is often diametrically opposed to the opinion eventually obtained by close study. I do not mean so much in large monuments, such as cathedrals, where mass and effect are greatly contributory causes to their general appreciation, but in the smaller details—antique furniture, for example, or pictures. Therefore, good examples can produce a very great effect upon different persons without that effect being general or equal enough to enable cause and effect to be reduced to a science.

Then, as regards application.

Application is really the important element in architecture; historical research into details of design and construction are lifeless unless accompanied by application.

Application is perhaps the elf of inquisitiveness, a spirit of restless experiments and trials and searchings, a reasoning of why and wherefore, a balancing of value against value of pros and cons, the elimination after trial of the less useful, the selection of the fittest, the employment of the experience of others in selecting materials, of recognizing failure, or of continued improvement. Application is, then, the "cement" of the architectural structure, without which the bricks are useless, the binding together of the different elements to produce progress. How does one teach application?

Architectural education, up to the present, has consisted of the first two of the above only, and for the simple reason that they could be taught from the book. In architecture, so-called history and construction are inseparable. One talks about the history of architecture and historical construction, but is not the proper name "*Historical Design*," which includes the other two? For, after all, what is historical design but *construction*? At any rate, until the beginning of the renaissance movement, and even for some good time after that, all architecture was the solution of structural problems, of course, in strict relationship with the use and habits of the inhabitants, and design was the intelligent use of these problems in producing effects of mass, and light and shade.

Is it not obvious that to study the bare bones of history without application, without studying

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the effects of material on planning and external effect, without following the results of deliberate design, of the evolution of ornament from a taste point of view, of understanding and valuing the constructional efforts of the Romans, for example, is to throw away a stimulant to the imagination without parallel in any other art, and to omit the one thing which architecture really is?

Yet, of what do architectural historical lectures consist but dry readings illustrated by slides? The slides alone provide a stimulus to the students, and for any value the reading has, it might be omitted, and the students allowed to draw their own information from the slides. There is no need for dimensions and dates, because the photographs carry their own scales in their figures and accessories, and, as for dates, the value does not lie in dates but in the success or otherwise of a particular construction or ornament and its inspirations for modern problems. Our studies need the stimulus of application if we are to progress and if we are not to become archæologists pure and simple.

We must also avoid the teaching of construction from the workman's point of view—technical perfection—but rather to study with a view to its simplification, improvement or more ingenious use, always also from problems of design of our own imagination. Whilst we want to know enough of the defects and values of materials, it is the workman's place to know how to work them. We have for a long time endeavored to teach pupils in their early stages practical details, which only come after great experience, but to teach such things without the specific cases in which they occur is to risk making no impression on their minds.

This introduces the last great point, and, perhaps, the most debated one of all: *Practical Experience*.

It is perfectly obvious that historical and constructional knowledge, taste and application, need practical experience.

Practical experience is covered to a great extent by application, but stress of time in schools denies the long experience necessitated on building works before practice ought to be commenced, and, contrary to the "Arts and Crafts School," I believe that practical experience must come last, when the pupil has already been prepared to discriminate between the relative importance of things and to use his judgment in their application.

The value of organization and business training for the architect of today must also receive immediate attention; the absurdity of a person attempting practice with no knowledge of book-keeping, correspondence, office management (the art of coördinating and arranging other persons' labor) is too pressing to be ignored. A pupil enters an architect's office for experience; yes, but not to perpetuate out-of-date or rule-of-thumb methods of office management which were inadequate fifty years ago; if, therefore, he cannot get what he wants in the office, he must get it elsewhere. To improve education in certain directions and not in this also would be a calamity, and yet, despite the fact that each practising architect believes that it is only in his office that business training may be acquired, I respectfully disagree and add that it is only from outside that improvements can enter, and these improvements must be brought in by the young blood.

A Solution of the Housing Problem in the United States*

By ROBERT ANDERSON POPE

I. THE SOCIAL PURPOSE

OF THE innumerable grand projects for human betterment that have witnessed man's resolute faith in his own future, the larger number have never attained realiza-

tion. Their main substance was a generous imagination, their chief animus a high-spirited altruism. Detached from the basic facts of the nature of mankind, and unrelated to other projects of reform, they have remained for the most part, inspiring ideals—chiefly potent in keeping alive man's discontent and aspiration. Through this experience we have become too fearful of fundamental reforms and yet it is only through

*One of the two prize-winning theses in the competition for a solution of the housing problem in the United States, as conducted by the Journal of the American Institute of Architects and the *Ladies' Home Journal*.

fundamental reforms that we shall produce the realization of our aims.

There are no facts in creation so real and important as the facts related to human nature; although, like the air we breathe, we are unconscious of them, nevertheless they are constantly and powerfully operative. If respected and capitalized, they will prodigiously reinforce any enterprise; if promised satisfaction and fulfillment, they will ensure success. They reckon ill who neglect them. External power or material glory is never safe if these forces, which make up the inherent qualities of mankind, are placated and unemployed.

It is, then, the fundamental and universal nature of man himself which must control every successful enterprise of human well-being, and we must therefore acknowledge the authority of man's deepest needs and capacities, and, in the light of the essential characteristics of human nature, attempt to provide that setting which will insure the development of an ample and humane life. This is primarily the field of the philosopher and the psychologist, and the essential character of human nature, in its major outlines, has already been made clear and sure by philosophers like Plato, Aristotle, and Kant, down to the modern psychologists of the Freudian school; and it is upon their conclusions, then, that we intend to base and draw up herein our new Bill of Rights.

Man is an animal and on the bodily basis rests all chance for a really satisfactory life. The barest physical necessities of man's system call for air, light, protection, space for movement, opportunities for cleanliness, and so forth. There is no possibility of men being really themselves except in a friendly physical environment that promotes a healthy, normal, communal life. Though in fact the proposition is too trite to be argued, the force and authority of it are often overlooked—and overtly this essential right has been and is daily outraged on a vast scale. The medieval and puritanical scorn of the physical life has been a profitable dogma for the exploiter, and a so-called Christian civilization, motivated by a concern for individual profit, and the obligation of a world to come, have permitted endless abuse of man's right as a physical being.

Although it is true that man is an animal, he is something more; and the cry that man shall

not live by bread alone is a recognition of the truth that only in the fulfillment of his mental and spiritual functions can man find the good life.

The most universal character of normal mental process is the effort towards integration. We give things names, we register impressions, we seek to establish relations of resemblance, continuity, and dependence. We are constantly designating, classifying, relating every minute of our waking lives—trying vainly, blindly, to impart some order and control into the sorry scheme of things. That which is unrelated is mysterious, painful, baffling, and even terrifying. The Freudian method of research has shown that the lack of the integrated life is responsible for many of our pathological, as well as our psychological disabilities; and that the right life involves a complete integration which shall include within a harmonious whole man's subconscious and conscious selves.

This compelling force of human progress is the essential quality of the mind with its unconscious, persistent, and universal pressure in the direction of coherence, order, and spirituality. This is the *élan vitale*. As the acorn, by its inherent structure, predetermines the ultimate character of the oak tree, so the *élan vitale* predetermines the progress of society; and it is that fundamental character of the mind and spirit that we must recognize as the medium to which it is necessary to attach all our programs and reforms.

One of the most important characteristics of mankind which this integration must recognize is that of the creative impulse which is inherent to all men. Probably no other factor has been so outraged and denied by modern industrialism. The modern town must provide some way which, in the end, will accomplish the freedom of the workers to express this powerful impulse in forms of creative achievement.

Another phase of human need which must be recognized is the complexity of man's talents. Modern industrialism has disregarded this, to the serious detriment of society, concentrating, as it has, the whole energies of a human being on tasks that utilize but a trifling phase of his inherent capacities, while leaving the others cramped and impoverished. The price of a policy which so disregards the varied capacities of every individual may be merely a dreary,

A SOLUTION OF THE HOUSING PROBLEM IN THE UNITED STATES

melancholy life for one poor group of workers; or on the other hand, outraged human nature may assert itself, as it has in the past and still continues to do, through more or less criminal deeds of violence and excitement. Gambling, drunkenness, sex morbidity, reckless sabotage, are but some of the ways in which a cramped nature is meeting this phase of modern industrial life.

Among the other major inherent characteristics of mankind for which provision must be made are the herd or social instinct, the spirit of freedom, the spirit of play, and the love of the beautiful. A brief amplification of these characteristics is necessary in order to later disclose what town planning and housing technique must be devised to comply with these fundamental requirements of human nature which we have accepted as authoritative for our direction.

The herd or social instinct is the correlative of the instinct for self-preservation—gregariousness is just as ultimate as acquisitiveness. Man is, indeed, as Aristotle has said, preëminently a social being. The individual man has value in life only as a social complex. From the social whole he has derived his language, traditions, customs. To that he constantly appeals—in coöperation alone can he do his work or find his completest satisfaction. It is not merely that our material existence depends upon society, our food, clothing, shelter, education, protection; it is rather that the very quality of our minds is social. Solitude is the most cruel form of punishment. To be hated is almost preferable to being neglected. A human being, in so far as he is more than a chemical and physical complex, can be defined only in terms of social relations. He has advanced out of wildness and weakness by virtue of his infinite capacity for coöperation, for mutual aid.

It was this quality which Prince Kropotkin showed to be the dominating surviving factor in pre-historic man—a factor which involved the substitution of tribal property for individual property; and which he tells us resulted, in the prehistoric tribe, in a quality of life, idyllic in its completeness and beauty, and far more Christian than anything we know of in the world today.

Without the opportunity for association and coöperation, man becomes morbid, melancholy, hateful. He needs to give and to receive sym-

pathy according to the cosmic law of love and self-sacrifice; to share and undertake with other human beings all manner of enterprises and activities. Only in social contact can he feel himself a real human being or ever quite truly know his own character. At the basis of all great societies there have been especially close coöperative units: The Greek state; the Hindu caste, and ryotwar; the Chinese family; the Japanese or Scotch clan; the Russian mir; the Renaissance cities; the American state and the New England town meetings.

Civilization has lost most of this fine inherent spirit of coöperation and in its loss has paid dearly. The long and brutal fight that laborers have had for even free association is a sad story in the history of human oppression. Denied the elemental right of free coöperation, it is not surprising that, when the long-denied power and exhilaration that come from association were discovered, they were for some time put to primitive and imprudent use. From every quarter of the globe and every angle of human experience comes overwhelming testimony to the magnetic and irresistible power of the spirit of coöperation. The mysterious and stubborn persistence of the Bolsheviki is due primarily to the fact that they have capitalized a vast power in the instinct for human brotherhood—a power which a complacent western civilization ignores at its peril. It is a vital, universal, essential human trait. It demands fulfillment on both a large and a small scale. It must not merely be vast and mechanical, as a great army—it must also be intimate, personal, a daily opportunity in all lives. So precious is this human value of brotherhood and solidity that war has often been defended on the ground that, despite its infinite anguish, it nevertheless recovers for a distracted civilization the precious unity which an atomistic, scientific industrialism has shattered.

The love of freedom is fully recognized as a universal and powerful character of the nature of mankind and needs to be stressed but little, yet it is so potent that full consideration must be given to it by the town creator. Modern life has imposed upon the original flexible human spirit a rigid, mechanical order, itself artificial, and, despite man's amazing adaptability, in the long run injurious. Time is divided into pieces; we stretch our lives on Procrustean beds of

clocks, calendars, routine, programs, institutions—in short, a vast, dispiriting, clanking machinery compels us at every moment. Spontaneity, verve, adventure, imagination are held rigid in iron bands so that the morbid and violent become the only accessible substitutes for a free and natural play of will and fancy.

Once released from uncongenial environment and all really artificial limitations, the human spirit tends to develop along the lines of its own well-being. Its ultimate ideals are present as driving, animating forces, within it at all times, however concealed. They naturally and powerfully predetermine growth in the right direction. This is not sentimental altruism, but facts of biology, history, and psychology. We are not arguing for dispensing with discipline or training, but simply that, if environment is provided with that which is at all congruous with man's native requirements, his own infinite passion for perfection asserts itself—slowly perhaps, but triumphantly. Man's infinite perfectibility and natural disposition to excellence is one of the profoundest truths in the universe and the one thing that makes any form of slavery outrageous and intolerable.

In accordance with this thesis we must not impose a dogmatic scheme upon the future town. As we believe in the spirit of freedom, we must provide scope for it. Our town must be so planned that social and industrial innovations and adjustments are both feasible and easy. The town planner is only providing the skeleton, the framework, the technique. Each age must fashion its own order of city as well as each people, and it must be expressive of their own interests, adapted to their own needs. At best we can give the present order its most socially helpful community plans by striving to escape cramping finality.

The so-called political freedom which men think they have enjoyed has become but the sop of industrialism, through which the attention of the workers has been diverted from the fact of the slavery of the wage system. That this situation cannot long obtain, involving as it does the denial of this enormously potent human craving, is evident by the world-wide fomenting spirit of unrest. This is well understood by thinking men everywhere, who know that the consequences of continued frustration of this human need will be measured in the blood and

turmoil of revolution. But if men arise who can lead us to an industrial democracy which is a real freedom, then we shall progress by the peace of evolution rather than by the strife of revolution.

The town creator, can, as will be shown, make large contribution to the cause of industrial freedom and thereby of peaceful evolution, by the technique which he provides for this purpose in his town plan.

The spirit of play is another basic need of a full and integrated life, provision for which must be made by the town creator, since man cannot live by work alone, all our homilistical industrialists to the contrary. Even the lower order of animals play and a spontaneous expression of man's personality and emotion is a birthright, which if stolen or thrown away, must now be restored. Whether in sports or avocational hobbies, the worker must have full opportunity for some purely recreational activities. They give zest to life, and, like nothing else, they unify the disorganized and illy balanced life. The town planner must be fertile and ingenious in devising ways and means for the expression of this vital instinct.

The love of the beautiful, like the other major instincts of human kind, must be accorded fullest opportunity of expression and enjoyment if life in its finest sense is to be completely realized, whether it be in his habitation, his work, or his place of recreation. For it has inevitably an unconscious as well as a conscious influence on the quality of his life, making it always better and sweeter. By this is not meant the superimposed kind of beauty expressed through the term "City Beautiful," or some haphazard irrelevant trimmings in the way of parks and façades introduced as an afterthought indulgence of prosperity. Beauty is not some superimposed ornamentation. It is a quality of one coherent vision that lives through all its parts. The true town beautiful must be a unified whole, planned as a whole with respect to all of its features, fulfilling in a carefully interrelated scheme one coherent character. For such a town beautiful gives fullest scope to the instinct of love of the beautiful and is fit body to the true community-soul, for this esthetic unity which it fulfills is a counterpart of the ethical and logical unity of the community. Both are a complex whole of many parts. Both focus on

A SOLUTION OF THE HOUSING PROBLEM IN THE UNITED STATES

a central plan composed of many interests. Both hold together a dominant, persuasive character.

This, then, in the largest outline, is the social purpose our scheme is designed to serve—to provide the human flesh and spirit with an opportunity for the objective realization of its own deepest needs and capacities: to create a community in which health and happiness shall be natural and inevitable; where our basic demands for an orderly, integrated life find scope for the exercise and fulfillment of all specifically human functions; where variety and spontaneity relieve order and regulation; where freedom of every essential kind is protected and nourished; where the vital instinct for coöperation and community loyalty is stimulated and directed; where life for its own sake is worth living. For human life in itself is infinitely precious, not because it leads to something other than itself, as when beings are ground into dividends, but because there are no real values beyond spiritual values. Everything else is instrumental to the perfection of the human spirit, and our general blindness to the truth is the most fearful indictment of our time. Man is an end—not a means. To employ him as a means merely, as if inert material, is an inhuman reversal of the common truth. We must build towns, therefore, not where the worker is stored overnight for fresh production of wealth on the morrow, but where he can live constantly the distinctively human life; where, in short, nothing less than the ideal of Aristotle may prevail, that “a city is a place where men live common lives for noble ends.”

The fundamental error of modern industrialism which is responsible, according to Hobson in his “Democracy after War,” for most of the ills of society, such as capitalism, landlordism, militarism, and so forth, is due to the fact that the entire effort of production is motivated by the demoralizing, corroding influence of profit. The most vital function that the town-planner can have today is the provision of that technique for an industrial community, which, while it must conform to the necessary economic demands of feasibility, at the same time produces the means for escape from the demoralizing influence of work for profit and further provides the opportunity of exercising man’s creative impulse in creative achievement. It needs to be emphasized that profit has been the creating and sustaining motive of industrialism

since its inception. Examined from an ethical point of view, we find that profit, at least as a primary motive, if at all, cannot be morally supported; for, when judged by the product in human misery, which industrialism so motivated has superimposed upon the world for the last hundred years, there is no avoiding its indictment.

The proposed means of escape from the slavery of our industrial system, to be most successful, will involve the acceptance and the use of the present industrial order, as any non-destructive program must entail. In brief, the proposal is made that each head of a family and the individual worker be provided with enough garden space immediately contiguous to his dwelling to enable him to produce, with the intelligent direction and the coöperation of an agricultural corps of community workers, the larger part of vegetables and small fruits which he and his family consume in the course of a year. Two farms are recommended, one a crop farm and the other a dairy farm which shall be community-owned and community-operated, and in which at all times members of the community will find opportunity for compensable employment, such compensation taking the form of food-products whenever money is not available for payment. In both the private and the community gardens, children of the town will get one phase of their education while at the same time actually producing food commodities of value with which they may supplement the family income.

In addition to these means of livelihood, apart from that of work in the adjacent industries, it is proposed to furnish electric power to a basement workroom of every man’s home wherein, in his moments of freedom, he may try his hand at producing those things which his heart and mind may dictate, and by which, in due season, he will be able to, if not wholly, partially support himself and family. Supplementary provision for experimental efforts in self-support in the home is proposed in a community-owned workshop, which shall be created and equipped with power and tools. Herein the men interested in the same kind of production will naturally congregate for mutual efforts and mutual support.

It is from some such beginning that we might reasonably look for a genuine renaissance of the medieval guild. To some, such proposals for

escaping the wage slavery of industrialism and for re-creating the guild method of production may seem fantastic and impractical. However, there are many favorable conditions that would tend to operate to such ends; for instance, intermittent employment, excessively arduous work, or the disagreeable or dehumanizing character of tasks which are likely to be involved by the contiguous industrial plant. When such conditions do obtain, the most enterprising and resourceful of the men engaged in such work would surely seek self-support along the lines herein indicated and, in most cases, would succeed and therein find the satisfaction which comes from the expression of the creative impulse, a satisfaction that needs no excess compensation in terms of money. Initiated, as the movement undoubtedly would be, by the abler leading spirits of the community, other men of lesser ability and courage would be attracted from industry operated for profit to one or another of the groups which produce commodities for the joy of self-expression and from which their livelihood would come as a secondary and matter-of-course result.

It is our faith, then, that through some such provision of opportunities for industrial freedom there would develop a rational, feasible, logical reincarnation of the old guild idea.

Such an unprecedented concept of industrial transformation and community development would certainly fail of realization were the initial steps of the project not guided by the ablest and friendliest of hands. It is a well-known fact that causes fail time and again from the want of competent agents. For such an undertaking, men are needed who, by the quality of their minds or the evangelical fire of their spirit, predetermine the success of any enterprise to which they give themselves. It is such a group of men and women who have projected the graduate school of social and political science, to be located in New York City, and who are the type of men and women who, by their mental equipment and their integrity of social purpose, would insure the fullest realization of these high purposes.

II. THE ECONOMIC METHOD

The most successful medium for the economical development of good towns that has yet

been made use of is the copartnership plan. For nearly fifty years it has been, with some slight modifications and improvement, made use of in the English garden cities and villages, and it has accomplished those things which the program of this proposition has suggested as necessary objectives. By holding all the land of the village collectively, and by leasing instead of selling, no opportunity is ever provided for speculation in land-value increments.

Charter provisions in these towns provide for a limited number of houses per acre, which will effectually and forever prevent congestion of habitations. This, however, in future towns, must be supplemented by an experimental limitation in the floating population of a community, the limitation being determined, as Socrates has suggested, according to Plato, by that size which would produce the fullest life and yet have the quality of unity. Such a limitation of population, while it might have some disadvantages because of its arbitrary nature, will have many more advantages, such as, for instance, making it possible to provide with finality all of the social and semi-social provisions such as schools, libraries, music halls, gymnasiums, theatres, markets, and the like. With the knowledge of this finality, a higher quality and more permanent character of structure could be provided for public buildings, public parks, and play-spaces.

Modifications of the copartnership plan have been suggested, perhaps as wartime measures, which did not involve having the tenant subscribe to tenant shareholders' stock. Such an alteration of this plan conflicts with one of its most important social aspects, to wit, the making of all tenants shareholding partners in the enterprise, and cannot advisedly be accepted as a proper modification of the copartnership plan.

When this method of organization is made use of, it automatically takes care of the question of taxation through the rent payment, the taxes being determined by the representatives of the tenant and non-tenant shareholders.

The purpose of taxation, however, is to assign the just and proportionate share of the cost of collective living, and while this has been successfully done in places where land is not sold by appraising the rental values of land, this method is not ideal, since excessive rentals

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tend to be reimposed upon the people of a community.

An alternate form of taxation which it would be desirable to experiment with is one that would be based upon having all men, women, and children in a community give a certain percentage of their entire time to community work; the percentage being the same, such a tax would be equitable and also proportionate to a man's ability to produce for himself. Such a provision would have the effect of stimulating pride in and love for one's own community, since we love most those people and those things which we serve most. It may be objected that the community might need things which the service of members in the community could not provide. This would be met by allowing payment in amount of the equivalent of a man's time, that time for which he was taxed by the community, although no man should be allowed to substitute payment for the entire service tax. By such a provision there will never be any question of increase in land-value where the copartnership plan is made use of and where a broad agricultural and woodland belt of land surrounds a community, so as not to give any increase in land-values to the contiguous territory—a provision, which, as a matter of course, should be made for any new town.

The purpose of government is to accomplish the fullest functioning of the group as to its collective material, physical, and spiritual needs, and to provide for itself every requisite of the good life which the collective efforts would more effectively and beneficially secure than would individual effort. The form of government which would prove most democratic, and yet at the same time practical, is that of the New England town with its town meeting. If the state in which the community exists permits this form, it should be made use of in the beginning. The ultimate goal as to form of government ought to be that which was characteristic of the Old World and the guild. Government arose out of a group of men functioning similarly, and it is by our functions rather than by more arbitrary methods of determining political groups that we should determine our government. The heads of guilds meet other heads of guilds in the Guilds Hall, and since all are consumers of each others' products, as well as producers of their own products, the community's best wel-

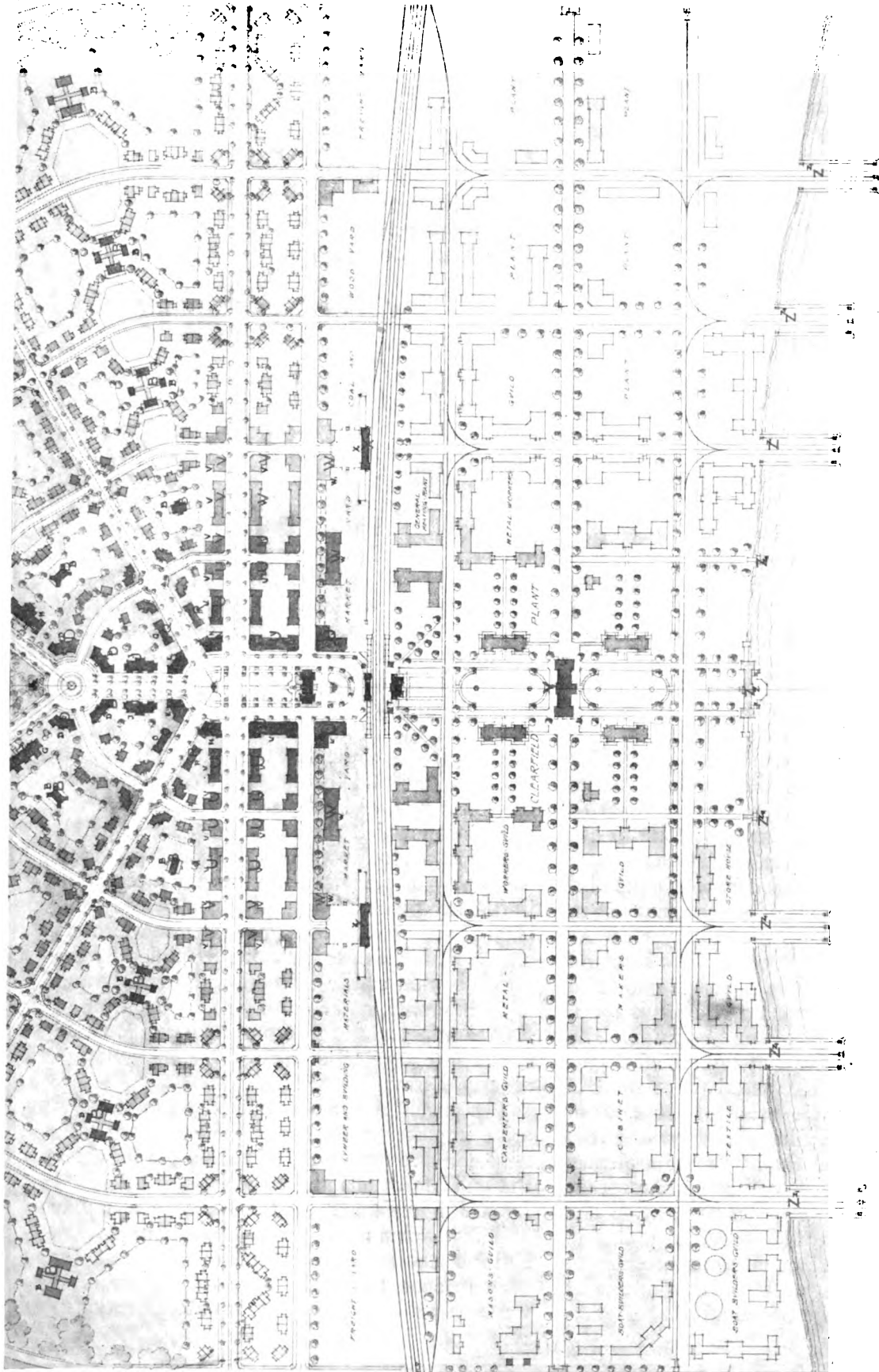
fare is automatically insured. But the entire purpose of this thesis is to set free men so that their natural instincts may be allowed to autonomously provide, not alone their own form of government and taxation, but their entire social and industrial life; therefore little importance can be attached to the initiative policies since they will be, in such a community, eliminated or developed according to their merit and fitness soon after their inauguration.

III. THE PHYSICAL PLAN

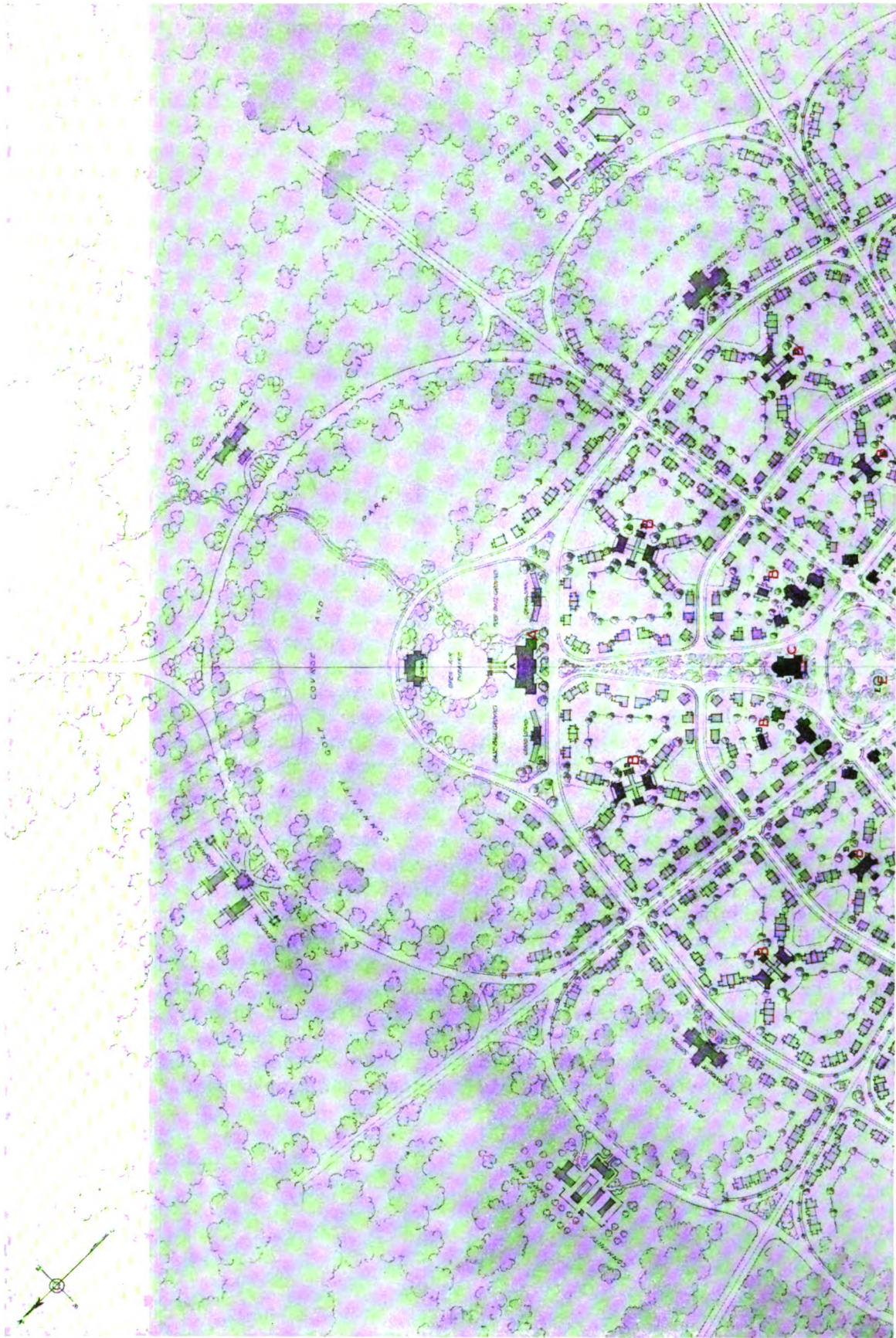
This town plan has been designed according to the ideals set forth in the "Social Purpose," wherein the characteristics and the nature of man have been set down as the proper guiding fundamental consideration. The fact that a man is a physical animal is recognized in the commonplace, everyday provisions of the everyday town. The disposition of these provisions has been made in a more unified and economic way. The position of the shops, markets, banks, theatres, apartments, individual and multiple houses recognize and provide for this physical nature of man.

Provision for the effort to satisfy that universal character of normal mental process toward integration has been in part considered in the design of the town by the unity of its street system and by the fact that each block of the town is made a unit in itself through the tying effect which the community set of buildings, located midway in the block, provides. The unity of plan which makes for integration is further secured by the location of the principal shopping, social, and recreational centers on one main axis. It is further amplified by the centralization of these functions in orderly and logical manner, and again by the segregation of the manufacturing area from the living area, all of which tend to make life in this community an orderly, harmonious whole.

The provision for the transaction of the creative impulse has been made by setting aside land and site for groups of workshops in which the guild form of industry may develop. It is further maintained in the numerous public buildings, planned for music, art, theatricals, and all manner of recreational activities, for even in such forms the creative impulse finds ways of self-expression. The aforementioned



- A. Gymnasium
- B. Subcommunity Center
- C. Community Oratorium
- D. Community College and Scholars' Guild
- E. Band Stand
- F. Churches and Chapels
- G. Museum
- H. Library
- J. Hotels
- K. Sculptors' Guild
- L. Musical Guild
- M. Bank
- N. Post Office
- O. Dramatic Guild
- P. Painters' Guild
- Q. Bookbinders' Guild
- R. Publishers' Guild
- S. Guild Hall
- T. Railroad Station
- U. Stores and Offices
- V. Stores and Apartments
- W. Market and Halls
- X. Cold Storage
- Y. Freight Stations
- Z. Clearfield Plant Administration
- Z. Club Boat-house
- Z. Wharfs
- Z. Boat Ferry Landings
- Z. Subplaygrounds
- Z. Public Parks
- Z. Roller- and Ice-Skating Rinks
- Z. Public Bath and Swimming-Pool
- Z. Public Garages



COMMUNITY PLAN SUBMITTED BY ROBERT ANDERSON POPE IN THE AMERICAN HOUSING COMPETITION. See p. 305

considerations of the home and community workshop are perhaps the most important mediums for the satisfaction of this instinct.

The provision for the herd or social instinct has perhaps been the most extensive of all, not only because it is such an important phase of mankind, but its satisfaction is expressed more largely than that of other instincts in the material terms of buildings, parks, recreational fields, etc., and these are fully enumerated and described in the plan.

The provision for the instinct of freedom is most potently expressed in the plan that insures a choice between industrial effort for profit and industrial effort for self-expression. The other provisions for satisfying the spirit of freedom are not expressible in the plan.

The spirit of play has been fully met by placing at hand, contiguous to the home, a park and playgrounds and by providing in the outskirts, contiguous to the larger schools and the great gymnasiums, generous areas for recreation.

The love of the beautiful has been afforded satisfaction in the home itself by the grouping of houses and the open spaces surrounding them, the parks and playgrounds affording splendid opportunities for a beautiful background of foliage and the play of shadow and sunshine. The buildings in the social groups are so placed as to insure picturesqueness and charm, while, in the business center, the charm of order and symmetry is provided for.

The economic requisites which feasibility demands have been met by providing a minimum of street area for a maximum of house-frontage perimeter. Streets have been minimized by focusing through traffic on a few diagonal streets of sufficient dimensions. Economy in pedestrian and vehicular traffic has been insured by the focusing of the diagonals and horizontal streets on a series of points rather than upon a single point, and everywhere provision has been made for one-way traffic. An innovation, aiming to further facilitate the movement of traffic, has

been introduced by flaring these diagonals for two blocks, up to reaching the point of their objectives. This provision means easy accommodations for the retardation of traffic which takes place at such points and furthermore makes provision for the increase of standing traffic.

By way of facilitating all manner of experiment in community life, a group of community buildings has been provided in the center of each block. Herein it is proposed that the nursery, the kindergarten, and the primary schools will be placed, with provision for experiment in community laundry, sewing-room, kitchen, and dining-room, also for reading-room, small library and evening school. Herein may develop the nucleus which will make democracy a real and living thing.

In this thesis we have considered housing and town-planning as of far greater import when used as a means to a new social order than as an end in itself. This we believe to be a fundamental and essential attitude toward the problem in our present-day generation when housing has such potent promise as a medium to the new order and the new day.

We have claimed a great deal for the regenerative power of our housing scheme. Beyond all debate, some such undertaking is indispensable to the new social order, yet it would be contrary to our fundamental principles to insist upon it as a cure-all. True, it will favor and support every reasonable reform—it will, of its own excellence, repair many of the blind cruelties of an uncontrolled industrial order—but new and sounder methods of education, a thoroughgoing application of the new principles of mental hygiene, a strong development of the non-militaristic internationalism and the consequent removal of pressure that supports many of the most intolerable features of our present social organization—these also are necessary, independent, and supplemental.

What Shall Be Done to the Cathedral of Reims?

As a result of the careful study made of the cathedral by the "Architectes des Monuments Historiques" as well as by the "Architectes Diocesains," the expertness of whose studies can scarcely be questioned since the members of both bodies have for years been engaged in the problems involved in preserving the churches of France, there seems every reason for believing that those who originally advocated that nothing should be done to the edifice in order that it might remain as a permanent reproach to the ravages of the Germans may well reconsider their suggestion. It is, of course, true that Reims presents an exceptional problem. It has not been damaged by the slow action of time but by the stubborn, stupid, and persistent efforts of an enemy, animated by motives that cannot be assigned to those classed among military necessities. It has endured a calculated bombardment such as no building in history has hitherto suffered, and yet, thanks to the quality of the stone and the skill of its builders, together with the fact that the pillars and vaulting were designed to carry a weight far in excess of that which they had supported up to the war, its resistance to shell-fire has been nothing short of marvelous. Even the heaviest, slow-bursting shells, employed especially for the purpose of breaking down the walls of the structure, seem to have been without effect.

It is, of course, well known that the original design of the cathedral called for towers double the height of those which were built, and thus the reconstruction of the destroyed and damaged parts of the fabric seems not to involve a task too difficult of approach. According to authentic reports, only two large holes appear in the vaulting, the most important of these being above the transept. These are the result of numerous explosions and have, of course, been aggravated by their exposure to the weather of five winters. Not one of the very beautiful caps of the interior columns has been touched, nor have any of the figures on the inside face of the front wall suffered. There are no dangerous damages to any of the flying buttresses, and but a half of the old glass has been irreparably destroyed. The rose window was taken down,

under the fire of shells, and can be replaced when it seems advisable. This is likewise true of seven of the large windows in the nave.

But if there are those who would still stoutly protest that nothing should be done, they would doubtless find many supporters if it were to be understood that those who advocate the preservation of the edifice were proposing a sham reproduction of the fabric as it stood in the summer of 1914. They would maintain that such a restoration would be quite as fatal, or even more so, than the complete loss of the building itself. Even though one were to dismiss the cost of such an undertaking, which is beyond calculation, there would still remain the utter impossibility of ever again attaining the architectural perfection that was. The replacement of too many stones would destroy the harmony of the patina of the walls, while the reproduction of the sculptured figures would be a travesty of art.

But if the opinions of prominent French architects are worthy of respect, it seems possible so to preserve the edifice that none of the fabric shall be damaged in the process, while enough vestiges of the sufferings of bombardment will remain to proclaim the reproach of those who cannot forgive so wanton an act, not alone in the present but in future generations. It is contended by many whose love of architecture entitles their contentions to respect, that the cry of those who demanded that Reims should be left to the invasion of vegetation and magnificent decay was merely a theory and that far from accomplishing the mission of perpetuating the greatest sacrilege of modern times, such a ruin would soon lose all traces of the bombardment and merely sink to an unimportant and forgotten pile of stones. If, on the other hand, the building can be so preserved that it will lose as little as possible of its beauty, escape the fatal hand of the ordinary restorer, and still live for centuries to bear witness to the guilt of those who violated all principles of war and of humanity, there would seem to be every reason for studying the question with an open mind.

Such a preservation as is suggested by those who are not content to let Reims fall silently

to pieces would involve the nicest discriminations. Only the most patient and faithful study could determine what sculptures should be accurately restored to their primitive beauty, and those which, by reason of the lack of castings or of sufficiently detailed photographs, would require the least local repairing necessary to avoid their fall or collapse. But such problems are not beyond solution, and while it is perhaps too much to hope that a result could be attained such as would meet with universal approval, we may well take into consideration the question of future generations and ask ourselves what is the precise nature of the duty which we owe to them. Reims is an inheritance which it is not ours to dispose of merely by satisfying ourselves that what we propose to do will meet a popular approval. It is to be hoped that it will be studied as an inheritance belong-

ing to the world at large, and not to any age or any country. If, in the course of five or ten years, the present damage can be so far obliterated as to make the building secure for centuries, while still preserving a measure of beauty such as the future will appreciate perhaps even more than we have appreciated that of the past, it is to be hoped that the money necessary for such a work will be freely given.

It is expected that the temporary roof will be completed before the next winter comes on, while it is also hoped that Cardinal Luçon will be able to officiate in one of the slightly damaged chapels on Christmas Day, 1919. Surely this is a hopeful sign that Reims may in some manner be saved to become even more precious, as, in silent reproach, it proclaims its miraculous survival.

JACQUES GREBER.

Reconstruction in France

Information as to Offers of Assistance

The Ministry of Liberated Regions (High Committee for Coördination of Aid) has sent to the "Direction Generale des Services Francais aux Etats-Unis" the following notice to be given out as a guide to those persons or societies who may express the charitable wish to help France in reconstruction:

Offers of assistance for the rehabilitation of the devastated regions, presented in the form of proposals of Guardianship or Patronage:

First: All funds must be devoted to special and pre-determined objects, and not to reconstruction in general.

Second: In view of the difficulty of dividing among the individuals funds necessarily insufficient for the reconstruction of entire cities and, on the other hand, the desirability of offering definite and precise objects to persons or societies who wish to contribute, one of the following methods should be chosen:

(a) Direct distribution of supplies to inhabitants (beds, bedding, garments, household furniture or utensils, horticultural or agricultural implements, small animals, and the like).

(b) Assistance toward bettering or adding to (in addition to what is to be repaired as war damages) the movable or stationary equipment of reconstructed buildings, particularly by undertaking expenditures for the

*The responsibility of the French Government for all damages suffered by individuals has been established by the law recently passed by Parliament.

betterment of hygienic conditions and for improvement in household and farm economy.

(c) Under the law, when buildings are constructed to replace those which have been destroyed in the war, the difference between the value of the new structure and the one which was destroyed, constitutes a charge against the owner repayable to the Government within twenty-five years. Gifts of money may be devoted to the payment of these charges in full or in part.

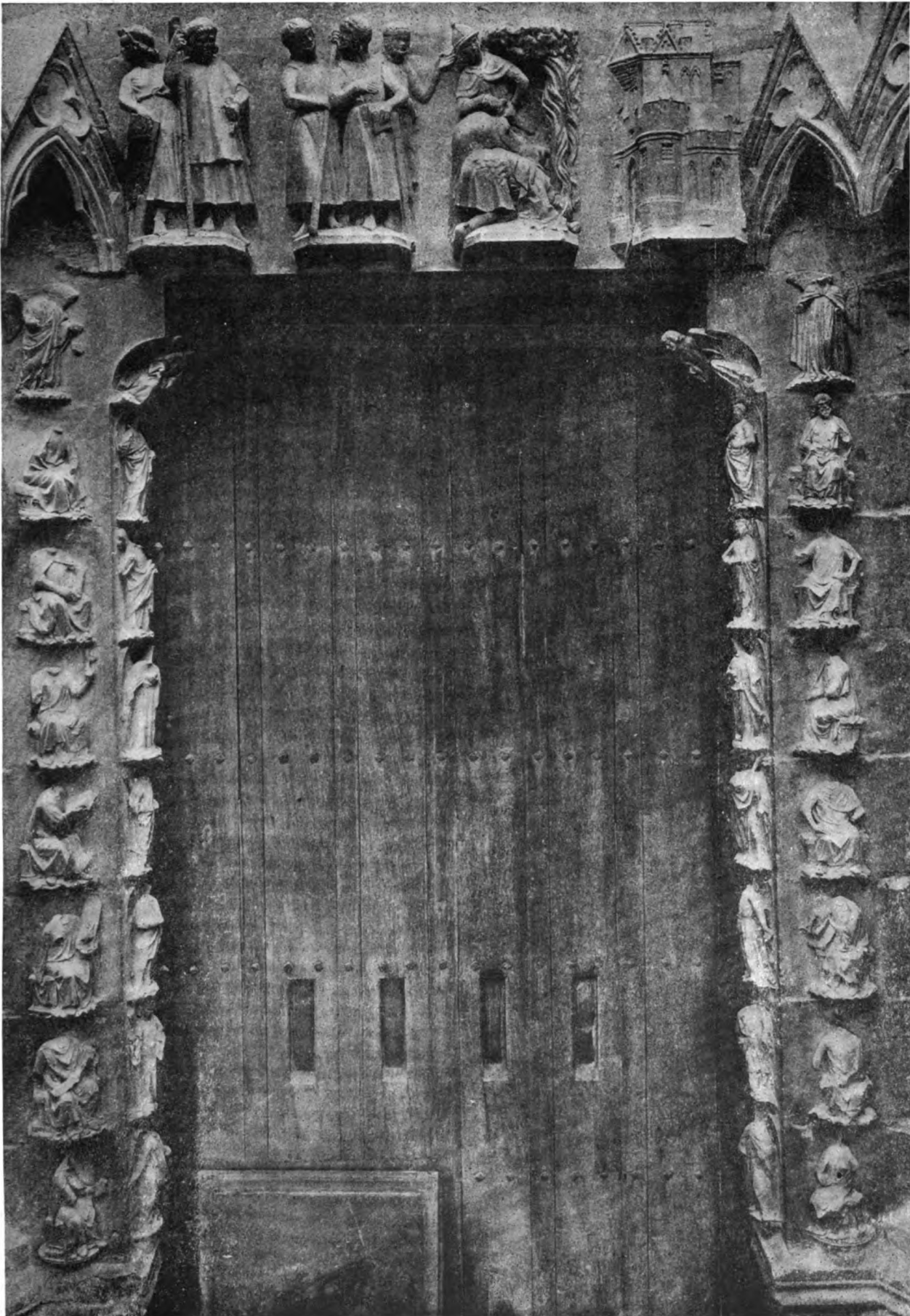
(d) Advancing money to cover costs of reconstruction, with the understanding that only a part of these costs shall be repaid by the sufferer out of his indemnity from war damages.

(e) Participation in the reconstruction of civil or educational public buildings (city halls, churches, schools, hospitals, and the like), with a view to such improvements, embellishments, or enlargements as may be desirable.

(f) The construction of any kind of new local public improvement, such as water, lighting, and sanitary works, low-priced homes and public buildings.

(g) The establishment of philanthropic or charitable organizations such as hospitals, nurseries, dispensaries, sanatoria, kindergartens, and the like.

(h) The establishment of community centers, comprising recreation and meeting-rooms, educational libraries (both post-graduate and professional), equipment for games and sports for children, shower-baths, free medical services for babies, milk dispensaries and the like, all dedicated to the commemoration of victims of the war.



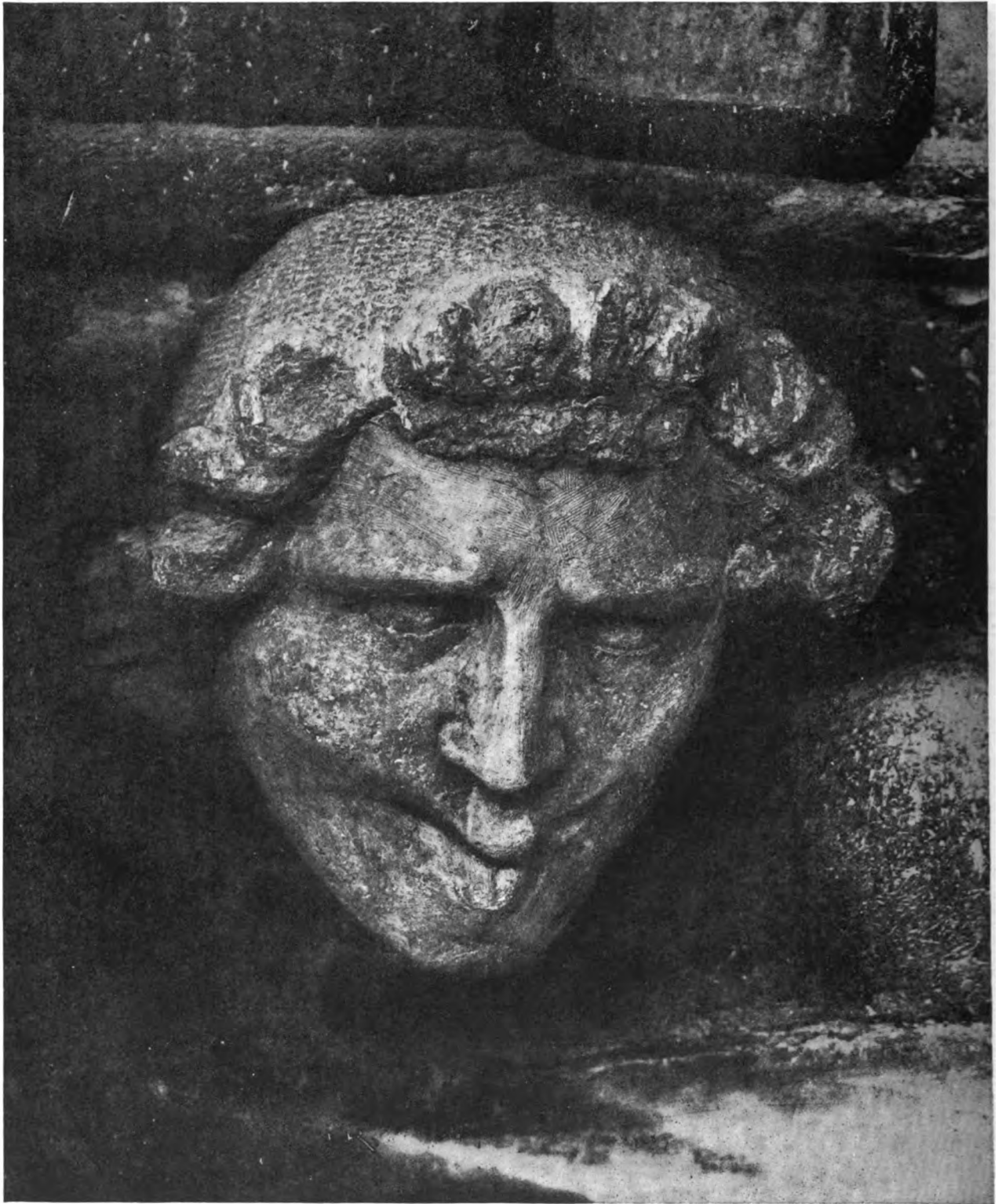
REIMS.—Framing of the Left Door, West Façade



REIMS.—Decorative Head



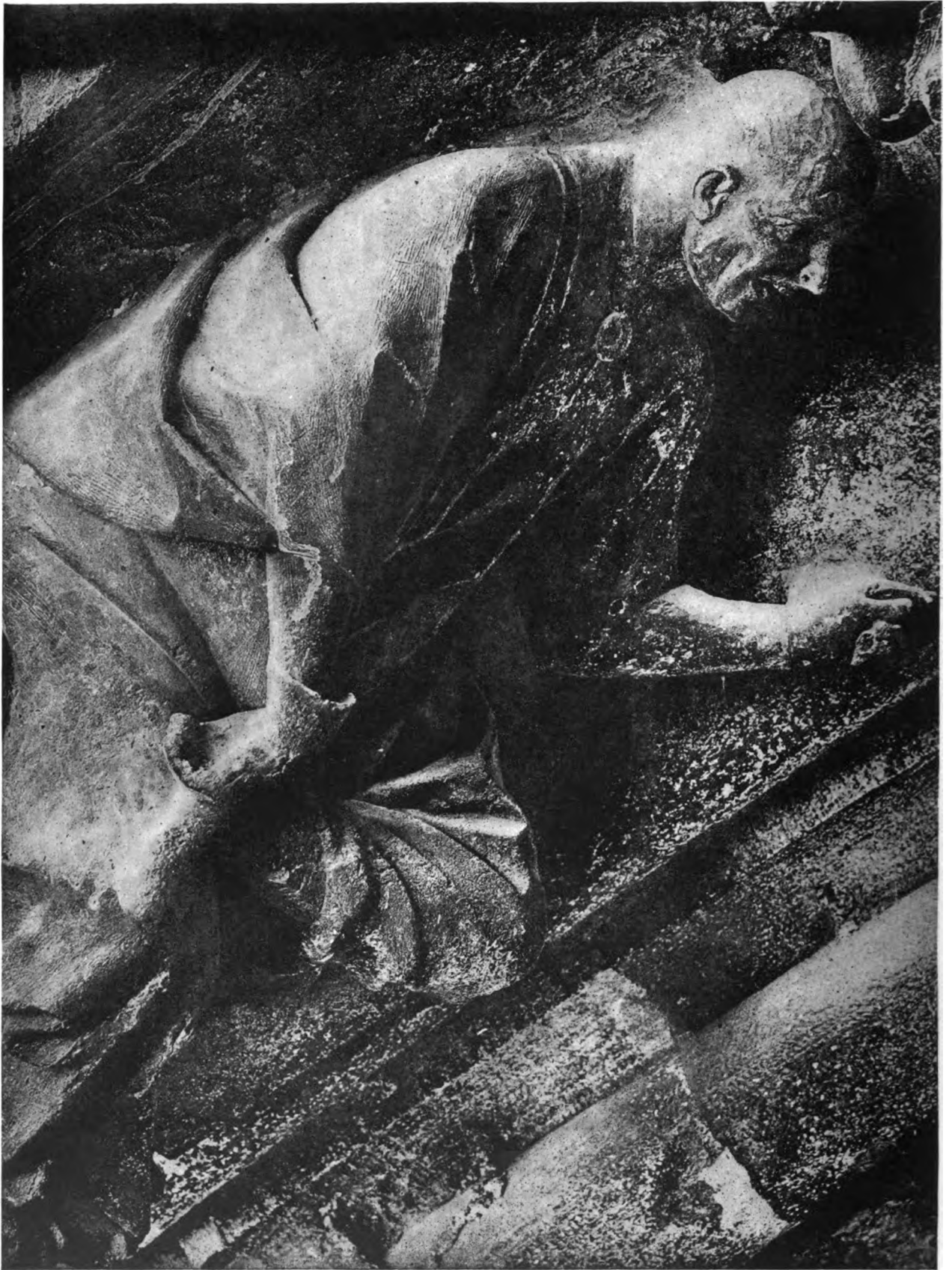
REIMS —Decorative Head



REIMS.—Decorative Head



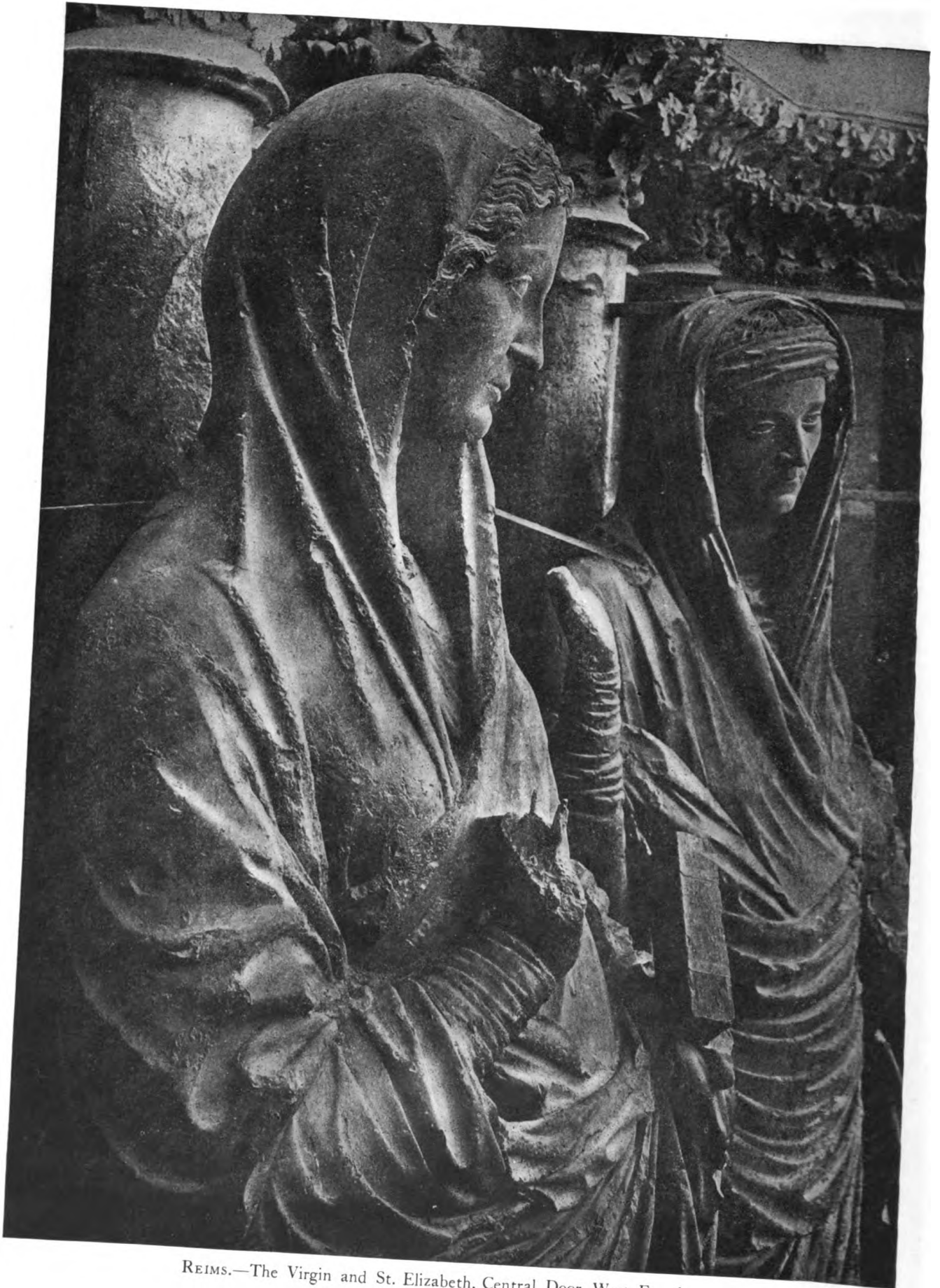
REIMS.—Decorative Head



REIMS.—A Prophet, Vaulting of the Rose Window



REIMS.—A King, North Transept



REIMS.—The Virgin and St. Elizabeth, Central Door, West Façade

Post-War Committee

THE Society of Technology Architects has recently held two meetings at Boston, both of which have been devoted to a discussion of the architect and his training. At the first of these meetings C. Grant LaFarge presented a paper on the subject of "Education Toward Reality." This paper was published in full in the June issue of the Journal. Upon the conclusion of its presentation at the meeting in question, a discussion ensued, from the minutes of which we are privileged to quote the following:

DR. MACLAURIN welcomed Mr. LaFarge's suggestion that in the future there should be closer relations between the architectural and engineering professions. "For" said he, "the principles which go to the making of a great engineer, the spirit that prevails in a great engineer must be radically and fundamentally the principles and spirit that make a great architect. Engineering is founded upon physical science, while architecture is primarily an art, but if you go deep enough into physical science and appreciate its real meaning you will realize that after all it, too, is an art. The orderly mind, so far as it is produced in the engineer, is produced by studying things that are primarily orderly in themselves and by studying the operations and principles of Nature."

"In art, on the other hand, you are dealing with order of a different kind, so that it is not easy to take over immediately the operations of teaching in an engineering school and apply them to the teaching of architecture. Yet the proper relation between design and construction can go a great way toward solving the problem before us. I believe that the present artificial separation between engineer and architect will not always exist, and that the distance between them can be diminished by the present movement in the schools to bring these two professions closer together. Another great movement referred to by Mr. LaFarge is to keep the schools as close as possible to reality. This seems to me to be a matter of profound importance, not only to architects but to every great profession. If the architect can modify his education and modify his practice so as to contribute to the solution of that vitally important human problem, surely one of the greatest advances possible to make will have been made."

In the discussion which followed it seemed to be the general opinion that reality should be brought not only into the education of the architect, but also into the schools, and that construction and design should be closely linked.

R. C. STURGIS: "Engineering is, and ought to be, an art, and the confession is equally true that architecture is absolutely a science. No one who has successfully practised architecture has arrived at success except by facing realities and solving absolute problems; and he would never get any work unless he succeeded in doing those very things. . . . We have got to study and find out just what the conditions are, and what the real problem is."

"It is one of the joys and interests of architects that we are brought into contact with so many different interests,

and that one after another we have to learn and assimilate these before we can tackle our problem with any show of success. Then when we do tackle it with the fresh knowledge of that particular problem, we would be utterly lost if we hadn't a good knowledge of construction, and if we didn't know pretty thoroughly what had been done in the past. In other words, we must have our construction and we must have our history as the background on which to work. . . .

"You know as well as I do that no one man can handle any architectural problem; he must have the assistance of a great many different minds in every single thing that he does, and should learn in school and practice in life the coöperation that brings all these together; he should have the orderly mind that can bring them together and hold them together."

C. H. WALKER carried this point a little further: "The architect is a builder, a correlator of factors, as is any designer. The orderliness of the structure of the engineer is the basic quality of the reality upon which the architect builds. . . . But there is a point where architecture transcends mere building, and it is that which permeates the whole. There should be no dividing line between the work of the engineer and that of the architect; one should permeate the other, and the transcendent quality can only be built upon the union of one with the other."

J. R. COOLIDGE, JR.: "The architect is in close enough touch with reality. It takes a good many people to make a world and more than one man to make an architect. . . . I find myself firmly convinced that design and construction will not generally unite to their finest exuberance in one man. . . . It makes little difference in the final result which member of the firm is an expert in the calculation of building stresses and which is the ready designer. But that that design is sufficiently difficult to be an engrossing interest and occupation of one man's working hours, and not leave him a great deal of leisure for other things, is my firm conviction, and I think it is sustained by the fact that on the whole, the progress of design in architecture in this country is comparatively slow."

The manner by which these aims could be taught varied greatly from putting all emphasis on ability to properly present the problem, to learning the general principles in the school and getting more detailed ability afterward.

PROF. CHARLES W. KILLAM, of Harvard: "There are three ways of getting an education: (1) At schools; (2) in offices; (3) in both. . . . We are not going to educate our men simply to be draftsmen; we are educating them to be practising architects; but, as C. H. Blackall said, 'You cannot make a practising architect in four years; so at least give the men enough training to be of some use in an office when the college work is through.'

"The schools can do some things better than other agencies; they can teach design better. Construction can also be taught in the schools and made real, if we know enough and want so to teach, and we can relate it to

the design; indeed, if we have any sense, we will do just that. . . . History must be related to the design course. Freehand and clay modeling can be taught better in school than in an office. But all these should not be separate courses; they should be unified. . . . A school cannot make a businessman out of a poet, for any kind of imitation of actual business that we could introduce into the schools would be inadequate . . . ; but until the student gets into the office, these things are not real. . . .

"That brings us to the part of education that must be given to the student in the office. Is the office doing its part of the job well? . . . The architect is very much more than a draftsman. The office which never lets a man do any superintending, never lets him write specifications, never lets him do any constructing, never lets him see the operations of settling accounts—that office is not teaching its men to be architects. With such offices I think lies the duty of doing the part of the work which Mr. LaFarge has mentioned—that of giving the man a grasp of things as a whole. . . . If you want the profession as a whole to be efficient, you must do your part to make your successors start somewhere near where you left off, by passing on to them your experience in the most important part of the work—the way to handle the business, the client, the money, and the larger aspects of the profession."

PROF. W. H. LAWRENCE, of Technology: "There are many types of schools, varying from the professional school which offers practically nothing but professional training in architecture, to the engineering school which includes only one or two architectural courses in its program. Of these, two types interest us most: (1) The graduate school, like Harvard . . . ; (2) the undergraduate school, like the Massachusetts Institute of Technology. The second type of school is confronted with the tremendous task of combining in proper proportion, in a course of four years, both a general education and an architectural training, which latter must include some knowledge of construction. . . . The most we can do is to lay a foundation upon which the professional career may be built, and the foundation should be broad and thorough rather than narrow and highly specialized. . . .

"I believe that we have brought our work in general architecture and in engineering more closely together than they were formerly. We have in this department two courses, one in general architecture and one in architectural engineering. The latter course was established with the idea of bringing the architect and the engineer into closer association. The students of architectural engineering are taught fundamentally as engineers, but in addition are given architectural courses. . . . so that, although engineering is their main interest, they have a very substantial understanding and appreciation of the aims and ideals of the architect. . . . The result is that the students of both departments exert a broadening and beneficial influence on each other."

J. R. COOLIDGE, JR: "The faculty of expression should be so important a part of an architectural education as to enable a man readily to convey to paper what he may feel; therefore I admire the immense advance in architectural training, as I see it in this room, over the drafting processes of the time when I was at Tech. That a man should learn to express his ideas through various media is to me of

great consequence—of as great consequence as that he should think in terms of construction. . . . Not but what I would have the structural sense inculcated in all pupils in an architectural school; but, frankly, the watching of the process of construction, interesting as buildings in construction are, influences, I know, a man's design, even though he may not have engineering knowledge or the engineer's business methods, and I submit that that which releases his imagination—namely, the sympathetic interest with the art of the past, with the landscapes of foreign countries, with the different fine arts in this country—makes it impossible to imagine an engineering organization producing a monument to the fallen in the great war. I think, then, that this specialization is to be encouraged, that it takes lots of men to make good architects, a lot of different kinds, and that in emergency work or in regular work the possession of highly developed talents, the possession of common sympathies and a broad point of view will go much further than so-called business organization or an effort to reduce production to its lowest terms in time and cost."

C. H. BLACKALL: "Architecture is big and strong, better than business, better than engineering, better than poetry. I would, in a school of architecture, start with the entering class, refusing admission to those not fitted and not having a preliminary knowledge of drawing; I would omit the higher mathematics, cut out any separation of the course into different parts based on length of association with the school, making it all a study of architecture and not of a little architecture, plus engineering and a lot of other things, and would make the school one big family where all are trying to learn from each other and are learning the great secret that architecture means coöperation."

How far in these ideals the schools have gone and what has been done, H. J. CARLSON of the Visiting Committee at Harvard and Technology, tells: "In looking over the work I found one thesis design of an art museum. The designer had been assistant curator of a museum, had really studied his problems, knew more about them perhaps than any one else in the school; he had designed the steel for his building, had considered the domestic engineering, and had written a careful essay discussing it all. In a recent problem at Tech the class went out and met actual clients who had already built the building. The students found out from them what their requirements were, what they didn't like, and what they would do differently if building again; from this a very interesting design problem was evolved—that is something in the way of architecture toward reality."

"In connection with the reconstruction community problem the students of this school surveyed an estate nearby, studied requirements, and made a report as to just what they would suggest building on it. They then had a competition among themselves and helped the winner to carry the design to completion. Later they considered their materials, and, but for lack of time, would have taken up the cost."

"The closer the two schools get together, the better, and we are getting them nearer and nearer every year by joint competitive problems in such an atelier system as can be had nowhere else in the country, and by comparison

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and criticism of the individual courses. We are just beginning to wake up to the importance of this work, and I hope that the result of this meeting will be some sort of a committee of architects and faculties as will carry this matter further and finally make suggestions to the schools that will lead to genuine improvements."

At the second meeting, Milton B. Medary, Jr., a member of the Executive Council of the Post-War Committee, was asked to lead the discussion.

MR. MEDARY said that he did not come to say anything that would lead the meeting in any particular direction, for the function of the Committee was to maintain a receptive mood. He then read the pamphlet which has been sent to all the architects in the country.

The discussion which followed centered more on the general condition of the architect than on any specific points, so that there was added a fourth consideration—the post-war position of the architect. Under the following heads have been grouped the main opinions voiced:

The Relation of the Public to the Architect

R. C. STURGIS stated his belief that unquestionably the architect has fulfilled his duties very largely to the public in this country; that the architects in Boston made the first comprehensive report on public improvements nearly fifteen years ago, and this report covered many subjects outside of architecture. What is true in Boston is, of course, true in many other cities.

JOSEPH D. LELAND said: "Many architects are unintentionally hypocrites; they promise with great enthusiasm things they cannot produce. They do not impress on a client that everything costs money, and they are apt to underestimate the costs and be disappointed when the contract price is made. The public has asked the architects to compete, with the result that younger men get contracts wherein something is wrong and something does not work, and thus the public has become very skeptical of the architect."

FRANK C. BROWN: "The public seems to think that all architects are highly paid men. This impression should not exist, for some men are worth a great deal more than others. There should be a sliding scale of payment determined by ability. When we realize that George Washington, with only an acquired education, composed and designed Mount Vernon, we feel that there is something the matter with our system of education, and the public sees us mainly by our results."

The Relation of the Architect to the Building Industry

R. C. STURGIS: "The architect has been trying to foster the very best possible relations between the various professions that enter into the building trade. No country in the world has achieved in the last generation what this country has accomplished in the way of architecture, not alone on the purely artistic side, but in the practical solving of business problems. I feel that if a group of men calling themselves engineers or anything else can do as well as architects in a building problem they should be allowed to do it. Close coordination between all entering the building trade should be developed, and I believe the

architect should go outside his office for the specialties and not include them in his organization. The standard documents were the result of the close cooperation of the American Institute of Architects with the building trades."

How Can Architectural Professional Societies be Improved?

LOUIS C. NEWHALL: "The professional bodies are out of touch with those whom they should represent. I wish we might have an organization here to include not only architects but the master builders, i. e., the general contractors. I would join in a recommendation for some committee to be appointed to look into this."

J. D. LELAND: "The Institute should enlarge its membership and take in the younger men. It should include all who are causing so much trouble and who do not understand professional ethics and for what the organization stands."

C. D. MAGINNIS: "I feel that all the disabilities that we complain so much about could be brushed aside if only the profession would do away with competition, except in respect to the purely governmental buildings. The influence of the principle of competition has been thoroughly demoralizing, and, to my mind, is the absolute basis of all those troubles that we are complaining about. In order to have any standing we must be worth something and be wanted, and not stand in a position of being bartered. The only argument I can find is for the younger men, but there are young men in every profession who seem to succeed. I think that the system of competition is nothing less than insulting. Why, after thirty-five years' independent practice, should I be asked to test my skill with Mr. A. or B. of whom I perhaps have never heard."

F. C. BROWN: "I agree with Mr. Maginnis in that competition should be for governmental work only."

ROBERT TAPPAN: "I believe that if any real promise is to come from the profession it is to come from the younger men. Some of my friends feel that in the matter of competitions the Institute is opposing the younger men from getting a start. I think that if the Institute were to make any ruling about competitions, it ought to prohibit entrance into competition by architects after they had practised, say five years, and should confine it to the beginner, because that is the only form of advertising that he has."

"As for the man who is established in the profession, I don't see that he needs competition. The young man has a very hard row to hoe before he becomes established and becomes a full-fledged member of the American Institute of Architects. Why should we embrace so many kinds of architects? The painters do not include the sign-painter with the members of the National Academy. We are too catholic in the Institute and should subdivide our membership. All men are not practising the same kind of architecture, and yet we are all doing it honestly and sincerely. The general idea of the contractor is that the architect is a conceited ass, a man who will not listen to a well-meaning suggestion. The finest building organizations in this country are the big contractors. Under our own noses this wonderful system of building has grown up. It can be applied to workingmen's houses and to the tallest office buildings where speed is a premium. Many architects do not see this growth, and yet I know that when that method

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is employed intelligently and scientifically the problem will be solved."

The Post-War Position of the Architect

L. C. NEWHALL: "All the problems that we think are new are really very old. The trouble with us is that we are so new that we don't realize it. The same thing is true, not only with respect to housing and to general building conditions, but also in our approach to the question of architectural education. It is not so much what we teach but how we teach and whom we teach. Architecture is a matter of personality."

C. D. MAGINNIS: "I feel that the efficiency of the architect is beginning to dominate the real purpose of the architect. Was there ever a time in the history of America when the profession of architecture was so flourishing, when so high a standard was struck, when so noble a contribution has been made to American life? It seems to me that if we are to descend from the atmosphere that we have so far occupied, we must expect a spiritual loss, and that the quality of American architecture is bound to suffer, no matter how efficient we may become from the purely social point of view."

R. C. STURGIS: "I believe that all this rumpus has been due to so much unemployment by the profession and that the questions now before us are the same old questions. The war is over, and yet conditions have not materially changed. The profession is the same profession as before the war, and I can see no reason whatsoever for this sudden impetus being given to a lot of things that have been going along perfectly steadily, regularly being solved by the Institute in a systematic way, and which should be and will be continued. Above all, I absolutely depreciate the point of view that the profession is not a good profession and is not doing its work well. I agree absolutely with Mr. Maginnis that the profession was never at a higher point of efficiency than it is today."

PROF. W. H. LAWRENCE, on being asked to speak on education, said that the average practitioner does not know the problems of the schools. "He is expecting a great deal more and perhaps a different result than it is possible for the schools to accomplish with the kind of men that come to them and the time available for their education. The schools cannot turn out men prepared to be of immediate use to architects unless we give up what seems to

me to be the most important thing that the school can give, namely, the training of the younger men who come to us in the fundamentals together with a general education. We have a variety of men coming into our schools, and, as Mr. Newhall has said, each man is an individual problem and the only way we can develop his individuality and imagination is to train him first to be a man and citizen and secondly an architect. We can simply start him on his way."

C. H. BLACKALL: "I cannot agree with Mr. Sturgis that there has been no change. This whole talk has been as if we were about right. A builder recently agreed to build a block for a client of mine, to furnish all the money and take as security a first mortgage at 6 per cent. His figure was lower than the lowest bid. When he had gone, I figured that he was proposing to make \$45,000 on an expenditure of \$100,000. Why should not I make an offer to my client and build the building for him? Indeed, I am free to say that if I had the opportunity today I would do just that thing. That is one of the new conditions that did not exist before the war."

"Now, another thing; the public does not know what we can do. There is a new crop of the public growing up and a new crop of architects coming along, and this public knows neither what we are good for nor what we can do. We must acquaint people with the knowledge of the fact that we can do something. I believe that while the architect should be able to do simple construction, his true function is that of the master builder. He is going to finance the building as well as build it, and I am deliberately trying to work in that way. I see no reason why we shouldn't put our best foot forward to our clients and then we shall avoid the misunderstandings which took place when the war broke out, so that the good people at Washington won't have the idea that the architects couldn't do large things because they never said they could and never gave the public a chance to know what they could do. I hope that when Mr. Medary goes back he will carry the distinct message that we have had a new awakening in Boston; that we are not going to be content to take a back seat for our client and let him be the sole judge of whether or not we know our business. We are going to take our wares to him and say: 'Here we have something that is of much value to you.'"

Book Reviews

Small Houses of the Late Georgian Period:

1750-1820. By Stanley C. Ramsey, A. R. I. B. A., London, 1919. Technical Journals, Ltd. (1 Guinea).

One is constantly astonished to find that it is still possible to do another excellent book on a period in architecture, for until the book appears, one would be inclined to doubt whether such a thing were possible, so carefully has the field been culled, and so able have been the cullers. Yet Mr. Ramsey has put together a hundred photographs of exceeding interest—some of them are indeed most

charming—and has supplemented them with a simple narrative of the period he has selected and of the architects who contributed to make it notable in the annals of English domestic architecture.

Mr. Ramsey makes the point that the higher standard of design that seemed then to prevail, in comparison with the present, was quite the result of the fact that the employment of the architect was practically universal, and that the speculative builder had not yet made extensive progress. To be sure, there were developments which might well pass for extensive, but they were most fre-

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quently carried out by the landed gentry and preserved at least a measure of dignity if not of beauty.

Mr. Ramsey includes a few examples of the terraces, as they were called, but the book is almost entirely devoted to the single house, of which he says: "The distinguishing trait of most of these late Georgian houses is a sense of order and proportion; nothing has been left to chance, all has been considered, even to the minutest detail; but together with all this carefully concealed study there is a spontaneity about them and a freshness of conception. There is a wonderful variety in their design, evidencing a wealth of invention and a fertility of imagination which is only possible when the canons and fundamentals of an art are frankly accepted. . . . They have a shy beauty, an atmosphere, as it were, of sunny charm; in the refinement of their details and in the balance of their parts they are indicative of a well-ordered and cheerful community which has found the happiest inspiration in the building

of its homes. They are the product of a different age from that in which we live—of an age that had some regard for the forms and amenities of social intercourse, a time of leisure and of manners, but a period not without its limitations."

Mr. Ramsey opens the door upon a large speculative field, when he dwells upon the difference in the two ages, for a recognized difference implies a cause, and a cause is not easy to agree upon. But whatever may be the direction in which the world is now plunging on—and who knows where we are going, architecturally or otherwise?—we may be grateful that these houses of a happier day have been preserved for us in Mr. Ramsey's volume. Whatever may be our speculative tendencies, as we think upon the time in which they were built, we shall—one dares risk the assertion—never tire of their charm and distinction.—B.

Correspondence

A Plea for the Recognition of Charles Frederick Anderson as the Designer of the Wings of the National Capitol

TO THE EDITOR OF THE JOURNAL:

Much has been said and written about the old statehouse in Hartford which, though historically very interesting, is of slight architectural importance. By establishing the claim that Bulfinch was its architect it lends distinction to the old building to know that the same hand that designed the rotunda and central porticoes of the capitol at Washington and of the Boston statehouse also designed the modest Hartford statehouse. Divest it of the ornamental balustrade that protects the roof and the cupola surmounting the building (both of which were added long after the building was completed) and it becomes an ordinary sensible building without any pretensions to style.

If so much pains is taken to prove it to be Bulfinch's handiwork, how much more important is it to remove the cloud of obscurity that has been allowed to settle over the reputation of the real designer of the wings of the capitol at Washington, which is acknowledged to be the finest building in the United States? The north and south wings of the capitol, which contain the Senate and House of Representatives' chambers, have long been credited "in undiluted form" to Thomas U. Walter, a Philadelphia architect who afterwards became president of the American Institute of Architects. Anderson was the real architect whose design Walter carried out. The credit of designing the wings gradually came to be wrongly attributed to Walter, and he took no pains to correct the mistake.

Being somewhat familiar with the subject, having lived in Washington with Anderson's family, I have more than once endeavored to have his claim properly acknowledged, but without any marked success. An obituary notice of Edward Clark, the successor of Walter as architect of the capitol, printed in the American Institute of Architects' official paper for 1903, refers to Walter as "the designer of the wings of the capitol," and there is no mention of Ander-

son's name in any of the proceedings of the American Institute of Architects, although I fully stated the case at an annual convention held in Buffalo, October, 1901. I suppose the reason that there was no report of my remarks included in the proceedings of the Institute was that it might interfere with a favorable action on an application that was then pending in Congress for a pension to some of Walter's family. I hope they got their pension, but that ought not to prevent justice being done to the memory of Charles Frederick Anderson.

Before coming to this country, Anderson was a well-known architect in Cork, Ireland, where he was in partnership with Sir Thomas Deane, whose son, the present Sir Thomas, is an eminent architect in Dublin. The firm had had a wide practice until the troubles in Ireland so diminished their work that Anderson emigrated to New York in 1848. There he formed a partnership with James Renwick, the architect of Grace Church, New York, at No. 8 Wall Street. In 1850, having separated from Renwick, he entered a public competition for designs for the extension of the capitol at Washington, D. C. Five hundred dollars was offered as a prize for the best design, but as none of the many plans received were quite satisfactory, the committee selected four of those considered to have most merit, and equally divided the \$500 among the four architects. Anderson was one of those four architects and received his share of the prize.

The committee then employed an architect named Mills to compile a new plan from the four selected ones, adopting such features of them as was thought fit, evidently having no compunction of conscience in appropriating the ideas of the others without having made adequate compensation.

President Fillmore, having approved this plan, the cornerstone was laid "with suitable ceremonies," on July 4, 1851. While the foundations were being laid, Fillmore

substituted a plan of his own in place of the composite plan, at which dissatisfaction was manifested in the Senate. Soon after the inauguration of President Pierce, Fillmore's plan having been abandoned, Anderson was consulted by the President. He suggested to the President that in a government building of this magnitude an army engineer ought to be associated with him. Accordingly, a little over a fortnight after his inauguration on March 23, 1853, President Pierce transferred the work from the Department of the Interior to the War Department, and Captain M. C. Meigs of the corps of engineers was put in charge. Anderson often said that when he was staking out the building with Meigs, a misunderstanding arose between them, with the result that within a week Anderson was supplanted by Thomas U. Walter, of Philadelphia, as architect of the capitol, Meigs remaining as superintendent.

It would appear from this that soon after Pierce's inauguration Anderson had been employed as architect, although no record has been discovered of that fact, unless three warrants for \$500 each issued by the Secretary of the Treasury in 1864 and 1865 are part evidence of his employment. However that may be, \$1,500 evidently did not seem an adequate compensation to Anderson for his services; for, as a result of investigation of his claims by a Senate committee, it reported, March 29, 1864, in part as follows:

"It is only necessary to compare the preceding description by the committee of the composite plan adopted by them, with the plan presented by Mr. Anderson, to discover the similarity or identity of the two.

"It appears from this investigation that President Fillmore discarded the composite plan and adopted a plan of his own which, with a few exceptions, bore no resemblance to Anderson's design."

When the Fillmore plan was abandoned, Captain Meigs proceeded to revert to the Anderson design. The report goes on to say:

"It is known that Captain Meigs had one or more interviews with Mr. Anderson, with full explanations of his plans, both interior and exterior, and it would not be unreasonable to suppose that he would avail himself of every useful suggestion to be derived from such an opportunity, and it remains only to be seen by a comparison of the building with the plans of Mr. Anderson to discover whether there is any similarity or identity between the two."

After tracing the obvious resemblances, the report winds up as follows:

"The committee, from an actual inspection of Mr. Anderson's plans, and a comparison of them with the extensions as they now exist, believe that his original conceptions and plans have entered, to a considerable extent, into the existing construction of the capitol extension."

The report was accompanied by a bill appropriating \$7,500 for his relief and recommending the retention of all Anderson's plans and drawings. This bill was passed at the next session and was signed by the President, February 17, 1866. Strange to say, although diligent search has been made for these plans, no trace of them has yet been found.

Before Anderson moved from New York to Washington, I had been employed for a short time in his Wall street office and he took me with him to Washington. The principal object in going there was to prosecute his claim for services on the capitol extension plans. These plans were framed and hung on the walls of the office in Washington where I worked for over a year, during which time several men, prominent in public life, came to examine the drawings, among them Senators Jefferson Davis and Jesse D. Bright. The drawings were beautifully rendered in

lead pencil by a friend of Anderson's named McCoy, an engraver then in the office of the coast survey.

The bill for the relief of Anderson stipulated that his plans and drawings should be kept in the possession of the Government and it is surprising that so important evidence of Anderson's part should have mysteriously disappeared.

When Walter retired from being architect of the capitol, a position he held for fourteen years, he was succeeded by his draughtsman, Edward Clark, whom he brought with him from Philadelphia. He died in office in 1902, having been employed by the Government fifty-one years, thirty-seven of which he acted as architect of the capitol. When Clark was still living a communication appeared in the *American Architect* written by me, in which I briefly stated Anderson's claims as architect of the wings of the capitol, hoping that it would receive corroboration from Washington, but it evoked no response, except a letter, dated February 2, 1891, from a former private secretary of the late Senator Platt, Edward T. Lee, who wrote me as follows:

"Mr. Clark, the architect of the capitol, happened to be in the committee room a few days after your letter came, and I grabbed the opportunity to draw him out on the construction of the wings of the capitol, remarking incidentally that I understood an article lately appeared in one of the architectural journals giving Mr. Anderson the credit of the idea embodied in them. This was after he said Walter was the man who, with Meigs, deserved the credit. When I spoke of Anderson, he hesitated a while as if trying to evoke him from the past, and said, 'Oh, yes, he was a crazy man that hung about the committee for a long time, till finally they gave him something to get rid of him.' That ended our conversation; and my only comment is, that it is the first case I have heard of where a committee ever gave a man anything to get rid of him."

After "hanging around" for over fifteen years, Senator Bucklaw of Pennsylvania was instrumental in having partial justice done to Anderson. During a debate in the Senate, July 23, 1866, on the improvement of the ventilation and heating of the chambers, he said:

"What the committee proposes at this time is that the architect (Anderson) who designed the capitol wings originally, and a departure from whose plans has introduced every difficulty that exists now in the ventilation of the halls—I speak with confidence after three years' examination of the subject—shall proceed in accordance with the plans which have been examined and approved."

The following letter, received from the Treasury Department, confirms the payment to Anderson of \$7,500 for services "in preparing plans and drawings for the capitol extension."

MR. GEORGE KELLER, Hartford, Conn.

Sir: By direction of the secretary receipt is acknowledged of your communication of the 29th ultimo, relative to a claim of Charles Frederick Anderson, architect, in connection with the capitol extension, the sum of \$7,500 having been appropriated for payment to him by act of February 7, 1866 (14 Stat. 577).

The said sum of \$7,500 was paid to Charles Frederick Anderson by treasury warrant No. 5551, dated February 17, 1866, and the paid draft now in the files bears the endorsement "Chas. F. Anderson."

This department has no information as to any committee or other reports submitted to Congress regarding the claim, the warrant having been issued in accordance with the terms of the relief act which reads as follows:

"That the Secretary of the Treasury be, and he is hereby, directed to pay to Charles F. Anderson, architect, out of any money in the treasury not otherwise appropriated, the sum of seven thousand, five hundred dollars, in full, for time, labor, and expense in preparing plans and drawings for the capitol extension."

Respectfully,
(Signed) WM. P. MALBURN,
Assistant Secretary.

It is a satisfaction to have at least so conclusive a proof of Anderson's part in the designing of the extension of the capitol.

GEORGE KELLER.

News Notes

The Revised Scale of Professional Charges of the R. I. B. A.

The old 5 per cent rate of remuneration, which formed the basis of the schedule of charges for the members of the R. I. B. A., has been revised and a minimum of 6 per cent is to take its place. Some interesting comment upon the revision has been offered by Vernon Crompton in an article in a recent issue of the *Architect's Journal*. Among other things, Mr. Crompton said:

"It was interesting, by the way, to study the attitude of various members present at the meeting. Votes were given light-heartedly on both sides; truculence was carefully modified, and bourgeois sat cheek by jowl with hedging respectability, whilst many members were immersed in small details which were insignificant when compared with the somewhat tremendous matter at issue.

"This is not an exaggeration when it is realized that a definite step of trade, or shall we say professional, unionism was being made analogous to that taken by our friends the plumber and his mate when they demand better pay per hour.

"In both cases there is, rightly or wrongly, the same feeling that the old rate does not give sufficient opportunities for living. In both cases the same economic pressure is found to be irksome; in both cases it is felt to be better that the demands should be made unitedly rather than individually. . . .

"The social and economic sense of the present-day architect is no more advanced than that of the engineer and cotton operative of fifty years ago, when, for lack of coherence among themselves and adherence to an ideal, their attempt to raise their standard of life was a failure.

"It is probably a pity that the operation of the new scale of charges was not delayed for twelve months, as was suggested at the meeting during which the internal situation could have been solidified by obtaining the adhesion of the minority, who do not see eye to eye with the majority, for however much the middle-class architect may shrink from working-class methods, it is undoubtedly true that when once trade-union principles have been adopted, the existence of the blackleg in any number is fatal.

"Loyalty to the aspirations and ideals of the majority is the only way to success. If, however, it is suggested that no adoption of trade-union principles is contemplated, then the new scale of professional charges will descend to the level of a mere pious opinion, and many architects may be able to congratulate themselves in the future upon the amount of work they have, which has been obtained possibly because they have no scruple in undercutting their fellows."

Housing in Peru

In December last there was passed a new "Laborers' and Public Employees' Housing Law" which went into effect almost immediately. According to press reports,

the President of the Republic, under the terms of the law, may sell to duly recognized societies in the city of Lima, land upon which may be built houses for workmen or Government employees who have been in service for more than five years and whose monthly salary does not exceed fifteen Peruvian pounds (about \$70 in United States money). The precise method of operation of the law is not yet known, but it is hoped to publish details in a future issue. It is surely a pertinent comment upon the housing crisis in the older and larger countries of the world that a similar condition now exists in a South American Republic which certainly cannot be classed as highly industrialized.

Coöperative Society of French Architects

The Coöperative Society of Architectes Diplômés par le Gouvernement, founded with an initial capital of 200,000 francs, was definitely constituted at a general assembly of the Society on April 12 last, under the presidency of M. Jacques Hermant, President of the Société of Architectes Diplômés. The object of this new coöperative society is to offer aid to the sufferers in the devastated regions and also to the state by lending the service of strong and energetic organizations constituted by a group of *architectes diplômés* by the Government and who have enjoyed the experience of years of study and upon whose ability the public authorities and the sufferers in the war-zone may rely without fear.

Also to aid their professional comrades by providing means of employment and by discounting the advances on architectural commissions which the Society will be able to obtain from the Minister of the Liberated Regions, on account of war damages allotted to sufferers.

And, finally, to render a service to the pupils of the Ecole des Beaux-Arts who have been obliged to interrupt their studies on account of the war as well as to younger students who were preparing for entrance to the Ecole and who could not be received before the mobilization, by providing the means of existence through employment in the service of the Coöperative Society to an extent which will not interfere with their studies.

Department Store Architecture

American architects will be interested in a paper on "Great Departmental Stores" by H. Gordon Selfridge, founder of the great stores in London which bear his name. The paper was presented at a recent meeting of the London Society, and from its Journal we quote the following summary:

"Mr. Selfridge said that he looked upon architecture as perhaps the finest of all the arts, carrying with it as it did the greatest utility and the greatest beauty, as well as the greatest lasting qualities. Particularly was this so when the art of architecture was permitted to be associated with man's activities in the management of such a business as that which occupied his attention.

"These great departmental stores, which called together three or four—perhaps more—different departments of human effort, should be amongst the finest structures of our business buildings. In his opinion they were the least efficient in utilizing that beautiful art of architecture. Perhaps the greatest shopping street in the world was Oxford Street, but we could not say that its architecture was particularly fine. Public buildings were erected with great care, but the general opinion with regard to commercial architecture was that anything would do; he thought that we should have to admit that if we scanned the whole world we should fail to find many really fine buildings devoted to business purposes. The great department store was the twentieth century development of the distribution of merchandise between the maker and the consumer, and while it was perhaps far in advance of the older methods of distribution, it had still a long way to go before it reached perfection.

"Mr. Selfridge then proceeded to outline the development of commerce from the earliest method, *i. e.*, the caravan system to the present-day department stores. In the course of his address he said that when one pictured the caravans leaving the gates of Babylon, Bagdad, or Nineveh, it opened one's eyes to see any Aladdin's lamp it was desired to discover. In the ages 2,000 or 3,000 years before Christ, the Phœnicians had as much courage and imagination as any businessman of the present day could boast of. To any who appreciated the science of business, the thought of those people doing the wonderful things they did in the way of commerce so many thousands of years ago, filled the mind with charm.

"The first great market was Bagdad, and the original trader in the East did his business by caravan, leaving the gates of the city for Nineveh. He was followed by the pedlar, who, with his pack on his back, traded with individuals. Then the pedlar, finding that people would come to him, opened booths for the sale of merchandise, and for a long period the booth extended over all Europe, the pedlar having appreciated the value of the booth as a shopping-point where he could cover his wares and leave them till his return. Thus the booth was really the father of the small shop which survives today; but with the development of the booth came the great fair, which was a very important aid to commerce.

"In the early days the great fairs were always held near to the places of religious ceremony, for it was there that the people congregated, and we find that the traders took their booths right up to the doors of the church and established themselves there. The lecturer mentioned that at Nijni Novgorod was held one of the oldest (if not actually the oldest) fairs in the world. To this fair people came from all parts of the world—north, east, south and west. The trading of the Middle Ages was largely carried on by means of fairs; but with improved means of transit they became less necessary, and thus the small shop came into being.

"The small shop had, undoubtedly, a narrowing influence, but it lasted until about seventy-five years ago, when two people, one on each side of the Atlantic, seemed to have decided practically at the same time to experiment in making a big store. William Whiteley on this side and R. H. Macy in America both hit upon the same idea, but he did not believe that either had any conception of the

extent to which the combination of business might be carried. The principle they followed was to sink into the business every penny that was earned in profit, and by that means its growth was rapid and enormous. Once the idea of the big store had taken root, the French merchants developed it perhaps more quickly than anybody else, and about fifty years ago the great Bon Marché in Paris had a world-wide reputation. Henceforth, they saw these departmental stores being erected in all parts of the world, although, of course, the actual number of large stores grew more quickly in America than elsewhere.

"The actual term, 'department store,' was an unhappy one that originated in America, where it became the vogue for the speculative merchant to secure larger premises than he really needed himself, and to rent out several departments (in some cases, indeed, as much as three-quarters of the whole area of a business) to other firms. There was not a family nor an individual not in need of one or more things offered for sale by the great distributing houses. It was further possible for the great store to have an influence in the direction of a higher standard of living, and it was also responsible for such influence on the lives of the very large staff employed.

"The part that a large store played in the lives of a community was not fully realised, even today, and the freedom with which the various departments were offered to the public for their general use and enjoyment made that public more familiar with them than with any other kind of business. It had frequently been said that the large store spelt ruin to the adjacent small shop, but the lecturer denied that this was so, for the large store brought custom to the neighborhood from which the small shop was likely to benefit, provided always that it was well kept and run with ability, and was in every way up to the standard of the larger business.

"Proceeding to touch upon the architectural features of the establishments, Mr. Selfridge said that it was, in his opinion, the duty of the great business house to unite beauty with its effort, and that could be done in no better way than by developing the art of architecture. Speaking generally, however, there was a great want of really fine buildings for the purpose of doing business in. The lecturer proceeded to show illustrations of large stores in Chicago, Toronto, Winnipeg, Paris, Philadelphia, Buenos Ayres, Sydney, South Africa, Madras, Shanghai, Tokyo, New York, Berlin, and London. Regarding some of the smaller London buildings, he said it was time they were either burnt or pulled down, and something better built in their stead. He thought that the merchant owed it to the community to make his business establishment as architecturally beautiful as possible, so that it might be an ornament to the city instead of, as was too often the case, an eyesore."

The Professional Idea in Architecture

In his inaugural address, Henry K. Holsman, recently elected President of the Illinois Chapter, A. I. A., said, in part:

"No new form or color invented by an individual (if such a thing is conceivable) can be called art unless it raises to the consciousness of the beholder past pleasures

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of the mind or familiar instincts of the race. He who would be an artist must serve his people with an emotional understanding of them and their past.

"The profession of architecture imposes upon its members the same familiarity with the achievements of structural and social sciences. The architect must work in close coöperation and deep sympathy with other professions than his own. No individual can achieve in this profession by himself. Architecture does not depend upon the inspiration of genius but upon painstaking culture and talent and the mastery of the principles of the arts and sciences accumulated from all the ages, from men of all professional classes who have worked and thought along social, structural, and esthetic lines. Architecture is a social phenomenon not an individual phenomenon.

"That our profession is the oldest, the broadest, and the last to come to consciousness is at once our opportunity and our responsibility. Being in sympathy with so many other professions, it becomes our obligation to wake up and help to prepare for that day of full professional consciousness when men of all classes, from the humblest trades unionist to the exalted statesman, will ask and receive of the treasures laid up in professionalism. Class consciousness is the chief reason for the existence of any professional organization. . . .

"It is our chief duty to develop our organization, in order to develop our class consciousness. By serving with each other in close contact and fraternity, we can develop an awareness of our combined strength and power. To belong is not enough—to participate must be the watchword. When we know each other as individuals, we can make ourselves known to society as a class. We may not have been first in war, but we can be first in peace. Let us stand by the professional ideal, to ourselves be true, and unite in one great body and one great purpose, to serve organized society everywhere within the field of our usefulness, with one great unselfish professional organization, the American Institute of Architects."

The Nebraska State Capitol

Mr. Thomas R. Kimball, President of the American Institute of Architects, has been appointed Advisory Architect to the Nebraska State Capitol Building Commission.

Award of Institute Medal

The Institute Medal for Students has been awarded to A. Glenn Stanton, of the School of Architecture of the University of Oregon.

A Zoning Law for Washington

The Committee on the District of Columbia of the House of Representatives has been holding hearings in Washington on the Mapes Bill for regulating the height, area, and use of buildings in Washington, and to create a zoning commission for the administration of such regulations. The Commissioners of the District have testified that the law is framed after those adopted in St. Louis and

New York City, and ample evidence for the necessity of speedy action has been brought forth in the testimony. Washington has suffered greatly through uncontrolled building speculation.

Registration in Washington State

The legislature of the state of Washington has passed the Architects' Registration Law, and at the last meeting of the Chapter it was voted that a delegation from the Chapter be sent to Olympia to confer with the Governor as to the appointment of administrators of the law. It was also voted that the logical appointee as representing the Chapter would be the head of the School of Architecture at the State University.

Federal Building for Seattle

In connection with the proposed new Federal building at Seattle, the Washington State Chapter, at its last meeting, voted that the services of the Chapter be tendered to the Secretary of the Treasury in the matter of selecting a site.

Increased Chapter Dues

In appointing a Ways and Means Committee to consider the question of providing a larger revenue and report back to the Chapter, the Washington State Chapter voted that it was the sense of the Chapter that the dues be increased.

State Societies

In connection with the resolution adopted at the last Convention whereby the Board of Directors was instructed to encourage the formation of state architectural societies, and coöperation with allied societies, the Secretary of the Institute has sent a communication to all Chapters of the following purport:

The Board of Directors of the Institute has decided to invite to the next convention the officers of such organizations, but meanwhile has instructed me to bring the matter directly to the attention of the Chapters with a view to encouraging the development of the relationships suggested in the various localities. I would be glad to be advised by you as to whether there is any such organization now organized in your district and if not, whether the situation seems favorable to the inauguration of such a society, and if there is such a society, to what extent your Chapter is already coöperating with it. If there is an organization, I would be glad to be advised by you of its present official address and its officers and the number of members it now contains.

It is felt that with the evident rapid increase in the number of states that will shortly have registration laws, the organization of state societies, in which the only qualification for membership will be the possession of a license, is becoming desirable.

The Board therefore requests that your Chapter give this matter careful and earnest consideration and I will be glad to assist with any further information that you may desire. WILLIAM STANLEY PARKER, *Secretary*.

Institute Business

Committee Appointments

In addition to the list of Committees published in the last issue of the Journal, the following are also completed:

Board of Examiners. E. W. Donn, Acting Chairman; A. P. Clark.

Competitions. Richard E. Schmidt, Chairman; F. J. MacDonnell, J. C. Llewellyn, Sylvain Schnaittacher, C. W. Steinbaugh, M. H. Whitehouse.

Subcommittee on Public Information. Herbert B. Briggs, Chairman; Ben J. Lubschez, D. K. Boyd, J. D. Sandham, Hugh Martin, Louis La Beaume, F. E. Davidson, E. H. Brown, W. J. Sayward.

McKim Memorial Fund. John Russell Pope, Chairman.

Building Committee. William M. Kendall, Chairman; E. W. Donn, John Russell Pope, D. Everett Waid.

Committee on Education

There has been submitted to the Committee on Education the final examination papers for architectural engineering in the School of Architecture of Columbia University. As there was some discussion at the recent Convention of the subject matter covered by the various schools of architecture, it is interesting to see the scope of the work on which the students in this school are examined. To the paper there is appended Part 5, which is a test for the application of principles. The six problems are calculations of strains and stresses accompanied by diagrams, which cannot be reproduced at this time. There is also a second paper, which is the final examination in Building Materials and Construction, which is of first-rate interest. The papers follow:—C. C. ZANTZINGER.

Final Examination for Architectural Engineering, School of Architecture, Columbia University, May, 1919

Part I. Test for Structural Sense. Value 10 Per Cent

1. The ends of a scissor truss are firmly set into the supporting walls. Later the roof is built. Will the truss develop any outward thrust? If it does, why?
2. Under common structural conditions, how deep would you indicate the following without calculations: a wooden beam spanning 10 feet—a steel I beam spanning 35 feet—a riveted steel girder spanning 50 feet—a flat wooden roof truss spanning 70 feet.
3. A reinforced concrete beam was designed with only one reinforcing rod. What was wrong?
4. Which of these cast-iron columns is the strongest and why? Both have equal heights and metal thickness of 1 inch. One is 10 inches square outside. The other is 10 inches in diameter and round.
5. Does it make any difference whether you face the flanges of a channel purlin up or down the slope of the truss?

Part II. Test for Structural Unity. Value 10 Per Cent

1. Make a freehand perspective sketch of the steel framework of a building similar to Avery Library.
2. Show enlarged sketches of at least 3 types of connections between members.

Part III. Test for Practical Details. Value 20 Per Cent

1. Footings were designed for a building which had exterior bearing walls and interior supporting columns. The loads calculated to come on them were the dead, live and wind loads. Areas for all footings were determined by dividing the imposed loads by the safe bearing power of the soil. Why did the building settle unevenly?
2. What are the probable causes of the following: (a) a reinforced concrete beam shows the concrete chipped away from the reinforcing rods on the under side; (b) a reinforced concrete beam shows diagonal cracks near the supports.

3. Using only angles and plates, make at least two sketches of built up forms for the following:—column, tension member, beam and purlin.
4. Sketch a typical bay in a steel framed building, showing spacing of columns, location of girders and arrangement of beams. Study it from a point of view of economy.

Part IV. Test for Principles of Calculations. Value 30 Per Cent

1. Outline briefly the steps necessary to design a riveted steel girder. Give formulas for calculation where necessary, but the chief thing is to include every step in the order required.
2. Outline in the same way the steps required to design a steel column.
3. Explain in detail how the tension and the compression members in a truss are designed after the stresses which occur in them have been determined.

Final Examination in Building Materials and Construction, Architectural School, Columbia University, May, 1919

Part I. Test for Structural Unity. Value 30 Per Cent

1. Show by sketches and very brief descriptions the essential characteristics of the following types of construction: (a) steel cage construction, (b) steel frame construction with non-bearing walls, (c) bearing wall construction, (d) mill construction.
2. You are pointed out two brick buildings, one is called a slow-burning type of construction, the other is said to be a fireproof building. What would you expect to find in their construction which differentiated them?
3. (a) From your observation, how do you think the following floors of Avery Library are supported: first, second, and drafting room. (b) Make a sketch through the exterior wall at the basement.

Part II. Test for Structural Details. Value 30 Per Cent

1. Make a sketch of a horizontal section through a typical double hung window for a masonry wall. Show sizes.
2. Sketch in elevation the following bonds in brickwork: Flemish, Dutch, English, Common.
3. Consider a typical construction similar to that used in a city apartment building and answer the following in relation to it: Minimum thickness of floor joists. How much bearing and how fire-cut? How anchored? What firestops are used? How are lintels reinforced? How far is wood kept from chimney?
4. Make a sketch of (a) steel grillage foundation, (b) cantilever foundation, (c) caisson foundation. Describe essential parts briefly.
5. Sketch a vertical section through a fireplace, showing hearth construction, smoke chamber, throat, etc.
6. (a) Make a sketch through at least 5 different types of joints used in interior trim and cabinet work. (b) Make a section through a typical interior door jamb.

Part III. Test for Properties of Materials. Value 30 Per Cent

1. (a) On what factors must we calculate when we consider the strength of concrete? (b) What aggregates are poor for fireproof construction?
2. State whether the following samples meet the specifications and if they do not what are they? You specified cypress for exterior trim and sample 3 was sent. You specified yellow pine, comb grain and sample 1 was sent. You specified white pine for sash and sample 2 was sent. You specified white oak for interior trim and sample 4 was sent.
3. (a) What causes efflorescence on brickwork? (b) Define the following: firebrick, glazed brick, pressed brick, and wire cut brick.
4. (a) List and define six surface finishes commonly used for granites. (b) In what ways is the life of a building stone destroyed by weathering?
5. (a) What is the difference between the dense, porous and semi-porous structural terra-cotta blocks? (b) List examples of where each kind is used.
6. (a) What are the essential differences between cast iron, steel and wrought iron? (b) Describe very briefly the most important uses of each in building construction.

Part IV. Test for Practical Judgment. Value 10 Per Cent

- What do you advise in the following circumstances?
1. A slate roof is designed to have a pitch of 5 inches in 12 inches.
 2. A wooden wainscot is erected over furring strips and the plaster begins just behind the top molding.
 3. Hardwood doors and trim are being set up in a freshly plastered building.
 4. Excavations in a clayey soil for a concrete footing course under a wall have been carried in one place deeper than necessary.
 5. Mortar in brickwork has frozen.

Model Form of Law for the Registration of Architects

THE Fifty-second Annual Convention of the American Institute of Architects recommended that each Chapter shall take an active interest in the regulation by state legislation of the practice of architecture. The Chapters are urged to act with a view of securing the enactment of legislation or the revision of laws already enacted, in order,

First, to place the profession upon the best possible plane of educational and technical qualifications and,

Second, in order to obtain a desirable uniformity in state registration laws.

The notes are appended to the Sections to which they apply as explanatory of the theories on which the law is based and to assist the Chapters in the drafting of laws which will properly satisfy local conditions.

It is essential that a lawyer familiar with the laws of the state in which the law is to be enacted should study the bill after it has been formulated and before it goes to the legislature. The model law follows:

A Bill for an Act—To define the qualifications for the practice of architecture in the state of and to provide for the examination and registration of architects.

Section 1: There is hereby created a Board of Examiners and Registration of Architects, the members of which and their successors shall be appointed by, and shall hold office during the pleasure of the (name here the appointing power, preferably the department having jurisdiction of education), and which Board, subject to the approval of such (same department) shall make rules for the examination and registration of applicants for the certificates provided for by this Act.

(NOTE.—In most states, the Board of Examiners will be appointed by the Governor, whereas those states which have state universities possess a valuable agency for the appointment and administration of the Board of Examiners and have it performed under its auspices, which ought to keep it free from politics.)

It is desirable that the State Board appointments be made as free from politics as possible.)

Section 2: The Board shall be appointed within ninety days after the approval of this Act, and shall be composed of five architects who have been in active practice in the state of for not less than ten years previous to their appointment. One member of said Board shall be designated by the (name here the appointing department) as Chairman *pro tem* until such time as permanent organization is effected.

Section 3: In making the first appointments under this Act, the (name here the appointment department) shall

appoint one of the said members of said Board to hold office for a period of one year; one to hold office for a period of two years; one to hold office for a period of three years; one for four years, and one for five years, and thereafter all appointments shall be for a period of five years. In case a successor is not appointed at the expiration of the time of any member, such member shall hold office until his successor has been duly appointed and has qualified. In the event of any vacancy occurring in the membership of said Board in any manner other than by expiration of time, the (name here the appointing department) shall fill said vacancy by an appointment for the unexpired term.

(NOTE.—It is obvious that the work and policies of the Board should be continuous and that they can not be if the entire membership changes at intervals.)

Registration of architects should not be placed in the hands of a Board made up of men of other professions, for it would not be fitted to examine and pass upon the qualifications of architects.

A joint registration law for architects and engineers is undesirable in that the registration of architects might be thrown entirely into the hands of engineers, notwithstanding that the Board may be made up entirely of the very best engineers in the profession. Such a Board would not be competent to examine and pass upon the qualifications of architects, for the reason that the architectural members of a joint Board might be in the minority. A combination Board is objectionable even if architects are in the majority. Engineers, if they want registration, should secure it by separate legislation which would permit them to practice as "Engineers" without any interference from an architect's registration law.)

Section 4: The members of said Board shall, before entering upon the discharge of their duties, subscribe to and file with the Secretary of State the constitutional oath of office.

Section 5: The Board of Examiners and Registration of Architects shall meet for organization within thirty (30) days after its appointment, and shall elect from its membership a president and secretary.

Section 6: The said Board shall adopt all necessary rules, regulations, and by-laws, not inconsistent with this Act, and the Constitution and laws of this state and of the United States, to govern its times and places of meeting for organization and reorganization and the holding of examinations, the length of the terms of its officers and all other matters requisite to the exercise of its powers, the performance of its duties, and the transaction of its business under the provisions of this Act. At least two meetings shall be held each year for the purpose of examination for registration.

Section 7: Three members of the said Board shall constitute a quorum, but no action at any meeting can be taken without at least three votes in accord.

Section 8: The Secretary of the said Board shall keep a true record of all proceedings of the Board and may employ such clerical assistance as the Board may deem necessary.

Section 9: The said Board shall be charged with the duty of enforcing the provisions of this Act, and may incur such expenses as shall be necessary, all of which expenses shall be paid only out of the revenue arising from this Act in the manner hereinafter mentioned and provided.

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Section 10: The said Board shall file annually with the appointing department a full report of its operations.

Section 11: All fees provided for by this Act shall be paid to and received for by the Treasurer of the state of, and shall not be used for any purpose other than the purposes of this Act. The expenses of the Board of Examiners and Registration of Architects, subject to the approval of the State Treasurer, shall be paid by him upon written order and warrant of the President and Secretary of said Board.

(NOTE.—In states in which the fees may not be sufficient for the proper conduct of the Act, it may be necessary to make special provisions and it may not be possible to allow to the Board members the per diem set forth in Sections 13 and 14. In some states an annual fee might be nominal, say \$1 or \$2 per year, whereas in other states having very few architects a considerably larger annual fee may be necessary to provide running expenses for the Board.)

Section 12: The (name here proper agent of the state) shall provide and furnish suitable quarters in the city of for the transaction of the business of the said Board.

Section 13: Each member of the said Board shall be entitled to \$10 per diem while actually engaged in attendance at meetings or in conducting examinations.

Section 14: The members of the said Board shall be reimbursed the amount of actual expenses incurred in travel to and return from meetings, and for expenditures for hotel bills, meals, stationery, postage, printing, type-writing, and the like necessary expenses incurred in the performance of their duties under this Act, subject to the approval of the Comptroller of the state.

Section 15: Any person residing in or having a place of business in the state and wishing to practise architecture in the state, who, before this Act goes into effect, shall not have been engaged in the practice of architecture in the state under title of architect, shall, before being entitled to be or known as an architect, secure from such Board a certificate of qualifications to practice under the title of architect, as provided by this Act.

(NOTE.—The theory of the regulation of the practice of architecture which the Institute has adopted is that no one can be admitted to practice as an architect without first establishing his qualifications and receiving a certificate issued according to the law. Everyone entitled to practice by virtue of having been in practice when the law was enacted should be required to establish that fact by affidavit. But he should not be granted a certificate unless he proves competency.)

Section 16: Any person having a certificate pursuant to the requirements of this Act may be styled or known as an Architect, or Registered Architect.

Section 17: No person presumed to have the right to secure such certificate, because of his or her use of the title Architect prior to the time this Act goes into effect, shall assume any title indicating that he or she is an architect, or any words, letters or figures to indicate that the person using them is an architect, unless he or she shall have qualified and obtained a certificate of registration as an architect, or unless he shall have filed an affidavit establishing the fact that he was in practice as an architect previous to the passage of this Act, and has a legal right to practice without a certificate.

(NOTE.—As a result of permitting architects who were in bona-fide practice at the time the law was enacted, to continue their practice

without registration, the public will soon learn to draw a line between registered and non-registered architects so that registration becomes a valuable asset to an architect.)

(Also see note following Section 19.)

Section 18: Nothing contained in this Act shall prevent the draftsmen, students, clerks-of-work, superintendents, and other employees of those lawfully practising as registered architects under the provisions of this Act, from acting under the instruction, control or supervision of their employers, or to prevent the employment of superintendents of the construction, enlargement or alteration of buildings or any appurtenance thereto, or prevent such superintendents from acting under the immediate personal supervision of the registered architect by whom the plans and specifications of any such building, enlargement or alteration were prepared. Nor shall anything contained in this Act prevent persons, mechanics, or builders from making plans, specifications for, or supervising the erection, enlargement or alteration of buildings or any appurtenance thereto to be constructed by themselves or their own employees, provided that the working drawings for such construction are signed by the authors thereof with their true appellation, as "Engineer," or "Contractor," or "Carpenter," or etc., without the use in any form of the title "Architect."

Section 19: Any one or any combination of the following practices by a person shall constitute the practice of architecture, namely: The planning or supervision of the erection, enlargement or alteration of any building or buildings or of any appurtenance thereto, to be constructed for others or by persons other than himself. A building is any structure consisting of foundations, floors, walls, columns, girders, beams and roof, or a combination of any number of these parts, with or without other parts or appurtenances.

(NOTE.—This paragraph requires careful study. It is generally considered unwise to attempt to define the practice of architecture or to insert a definition of a building.)

Section 20: Qualifications; examinations; fees: Any properly qualified person who shall have been lawfully engaged in the practice of architecture in the state at the time this Act takes effect, may be granted a certificate of registration without examination, by payment to the Board of fee for certificate of registration, as prescribed in Section 26 of this Act, on condition that the applicant satisfies the Board of Examiners that he is qualified to practice architecture.

Section 21: Any citizen of the United States or any person who has declared his (or her) intention of becoming such citizen, being at least twenty-one years of age and of good moral character, may apply for a certificate of registration or for such examination as shall be requisite for such certification under this Act; but before receiving such certificate this applicant shall submit satisfactory evidence of having completed the course in a high school or the equivalent thereof, as may be approved by the American Institute of Architects, and of having subsequently thereto completed such courses in mathematics, history, and languages as may be prescribed by the Board of Examiners and Registration of Architects. The examination for the above academic requirements shall be held by the Board. In lieu of such examination the Board may

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accept satisfactory diplomas or certificates from institutions approved by the Board, covering the course or subject-matter prescribed for examination.

Section 22: Upon complying with the above requirements, the applicant shall satisfactorily pass an examination in such technical and professional subjects as shall be prescribed by the Board of Examiners and Registration of Architects. The Board may, in lieu of examination, accept satisfactory evidence of any one of the qualifications set forth under subdivisions (a) and (b) of this Section.

(a) A diploma of graduation or satisfactory certificate from an architectural college or school that he or she has completed a technical course approved by the American Institute of Architects, together with and subsequent thereto of at least three years' satisfactory experience in the office or offices of a reputable architect or architects.

The Board may require applicants under this subdivision to furnish satisfactory evidence of knowledge of professional practice.

(b) Registration or certification as an architect in another state or country, where the qualifications prescribed at the time of such registration or certification were equal to those prescribed in this state at date of application.

(NOTE.—If these laws are to have any material value, it is important that registration be based on a high standard of education, and that registered architects be competent.)

The principal object of the law is to give the Board of Examiners power to be certain that every man who uses the title of "Architect" is well qualified.

The standard of technical education for architects approved by the American Institute of Architects is the only one which might be looked to as binding upon all states and there is no duty which the Institute has to perform which is more important in fixing and improving the standard of education of the architectural profession. Such standards will change from time to time, and the widest kind of flexibility embodied in a statute will be the most desirable. Any absolute standard, even the most advanced, would soon become obsolete.

If in time all states will, in their registration laws, refer to the educational standards of the Institute, it will be a means of arriving at a uniformity most desirable to pave the way for a reciprocal recognition in each state of registration in other states.

In the interests of the greatest public benefit and of good architecture, the standards of education should be raised from time to time.

A registration law should prove beneficial to the general practice of architecture. It should not be designed to bring about any immediate personal benefits. One evidence of the good effect of registration laws in states in which they are in force is that they are providing a strong incentive to would-be architects to secure a regular architectural course in a college whose diploma will insure their receiving registration under the law. That incentive leads them to qualify themselves by study and experience in an architect's office to an extent which they had not before realized to be necessary before they begin independent practice.

A person who is in bona-fide practice and has used the title "Architect" before the law went into effect should be allowed to continue his practice without interference. The law should not permit him to demand a certificate without proof of his competency.

Contractors, engineers, or owners should not be forbidden by a registration law to receive building permits so long as the local or state building ordinances are sufficiently rigid to assure that proper drawings are filed. The law should not interfere with the proper right of people other than architects, who are really qualified to file drawings, whether made by themselves or not, to do so.

There are many structures which an engineer can properly care for without the assistance of an architect, and there are many cases of small structures, drawings for which can be made by the contractor. We should rely on this attitude to enable us to cooperate on a friendly basis with the engineering profession and with contractors who will ultimately concede the moral right of the architect to take care of all work within his province, provided the architect maintains high standards of qualifications.

Great importance is attached to this view of the matter, inasmuch as it is based on the unsatisfactory experience of the profession in two or more of the states.)

Section 23: An architect who has lawfully practised architecture for a period of more than ten years outside of this state shall, except as otherwise provided in subdivision (b) of Section 22, be required to take only a practical examination, the nature of which shall be prescribed by the Board of Examiners and Registration of Architects.

(NOTE.—It is considered desirable to have a renewal fee, however small, to assist the Board in maintaining a correct list of registered architects and to supply the profession and the public with such lists; it would be better to reduce the fees for the examination and registration than it would be to omit the renewal requirement.)

Section 24: An architect seeking to practise architecture in this state, who is a citizen of a foreign country and who has lawfully practised architecture in such foreign country for a period of more than ten years, shall, except as prescribed in subdivision (b) of Section 22, be required to take a practical examination, the nature of which shall be prescribed by the Board of Examiners and Registration of Architects; or, if such applicant shall have been engaged in practice for a period less than ten years, he shall, except as prescribed in subdivision (b) of Section 22, be required to take an academic, technical, and practical examination, but in any case such applicant shall file with the Board a bond in the sum of Five Hundred Dollars (\$500), and such bond and the certificate shall remain in force for a period of three years, unless revoked for cause within such period, and shall then terminate unless a renewal be granted by the Board at its discretion.

Section 25: The fee to be paid to the Board by an applicant for an examination to determine his fitness to receive a certificate of registration as a registered architect shall be Ten Dollars (\$10).

The fee to be paid to the Board by an applicant for a certificate of registration as a registered architect shall be Five Dollars (\$5).

The fee to be paid to the Board for the restoration of an expired certificate of registration shall be Five Dollars (\$5).

The fee to be paid to the Board upon renewal of a certificate of registration shall be One Dollar (\$1).

The fee to be paid to the Board by an applicant for a certificate of registration, who is an architect registered or licensed under the laws of another state or territory of the United States, or of a foreign country or province, under subdivision (b) of Section 22 or under Section 23, or under Section 24, of this Act, shall be Fifteen Dollars (\$15).

Section 26: Certificates: Filing, recording and renewal of all examination papers and other evidences of qualification submitted by each applicant shall be filed with the Board of Examiners and Registration of Architects, and said Board shall keep a record, open to public inspection at all reasonable times, of its proceedings relating to the issuance, refusal, renewal, suspension, and revocation of certificates of registration.

This record shall also contain the name, known place of business and residence, and the date and number of the certificate of registration of every registered architect entitled to practise his profession in the state of

Every person granted such certificate shall have the

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same recorded with the County Clerk of the county in which his principal office for the practice of architecture is located.

(NOTE.—The recording of the certificate with the County Clerk of the county in which the architect's office is located should be sufficient. A requirement to record the certificate in each county in which work is performed by the architect is cumbersome and an unnecessary expense and labor.

The affixing of a seal of a registered architect to plans and specifications as required by the laws of some states appears to be an unnecessary and burdensome requirement.)

Section 27: Every registered architect in this state who desires to continue the practice of his profession shall, annually, during the month of July, renew his certificate of registration, and pay to the Board the renewal fee required by Section 25, lines 12, 13, and 14, of this Act.

A person who fails to renew his certificate of registration during the month of July in each year may not, thereafter, renew his certificate except upon payment of the fee required by Section 25, lines 9, 10, and 11, of this Act.

Every renewal certificate shall expire on the thirtieth day of June following its issuance.

Section 28: Revocation of Certificates: The Board of Examiners and Registration of Architects may revoke any certificate after thirty days' notice with grant of hearing to the holder thereof, if proof satisfactory to the Board be presented in the following cases:

(a) In case it is shown that the certificate was obtained through fraud or misrepresentation.

(b) In case the holder of the certificate has been found guilty by such Board or by a court of justice of any fraud or deceit in his professional practice, or has been convicted of a felony by a court of justice.

(c) In case the holder of the certificate has been found guilty by such Board of gross incompetency or of recklessness in the planning or construction of buildings.

(d) In case it is proved to the satisfaction of such Board that the holder of the certificate is a habitual drunkard, or is habitually addicted to the use of morphine, opium, cocaine, or other drug having a similar effect.

Section 29: Proceedings for the annulment of registration (i. e., the revocation of a certificate) shall be begun by filing written charges against the accused with the Board

of Examiners and Registration of Architects. A time and place for the hearing of the charges shall be fixed by the Board. Where personal service or services through counsel can not be effected, service may be made by publication. At the hearing, the accused shall have the right to be represented by counsel, to introduce evidence and to examine and cross-examine witnesses. The Board shall make a written report of its findings, which report shall be filed with the Secretary of State of the state of and which shall be conclusive.

Section 30: Every person who is lawfully making use of the title of Architect in this state before the going into effect of this Act, shall, within one (1) year after the going into effect of this Act, record his name with proof of his use of such title with the Board of Examiners and Registration of Architects, such recording not to be interpreted as evidence of competency or ability unless applicant applies for and is granted a certificate of registration. Failure to record within such period, the prior use of such title shall bar the said person from thereafter claiming registration under the provisions of Section 21 of this Act.

Section 31: On and after the passage of this Act the use of the title Architect or Registered Architect, or the use of any other word or any letters or figures indicated or intended to imply that the person using the same is an architect or registered architect, without compliance with the provisions of this Act, the making of any wilfully false oath or affirmation in any matter or proceeding where an oath or affirmation is required by this Act, shall be deemed a misdemeanor punishable with a fine of not more than Two Hundred Dollars (\$200), or imprisonment for not more than one (1) year, or both.

Section 32: This Act shall become effective immediately on its becoming a law.

Prepared by the Committee on Registration Laws of the American Institute of Architects.

W. P. BANNISTER
CHARLES H. BEBB
D. EVERETT WAID
RICHARD E. SCHMIDT,
Chairman.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS, FIRE-PREVENTION, STRUCTURAL SERVICE

Standards

In view of the increasing volume of construction and the responding increase in the production of building materials, we shall be able to continue with greater profit the discussion of materials if we pause to consider the forces at work to reestablish the old commercial practices and the opposing forces which press for coöperation among producers and between producers and consumers to the end that wasteful competition may be eliminated. The principal means advocated to this end is agreement on standards and the consequent clearer understanding by both producers and consumers of the attributes which give service value and, therefore, market value to the product.

During the last two years many industries producing articles used in construction found it necessary to organize in order that they might supply the Government's war needs. Very few of these war-born organizations have broken up. They gave to many an individual member his first taste of the benefits of organized coöperative effort. Unfortunately, however, some of these groups are displaying reactionary tendencies. They appear to be turning away from the road of progress into the wilderness of conflicting selfish aims and unbridled competition with its whole brood of demoralizing influences.

The matter of standardization and the use of standards as means by which the consumer may measure the value of the product is the rock on which some of these producer organizations will split. "We face a future of standards and standardization" is the message plainly written for all who choose to read.

This message comes from the vast body of consumers, and the will of consumers must ultimately prevail, for in the last analysis, consumption controls production, and that control will become a more and more compelling force as consumers are more completely organized and use organization as a medium for research and the dissemination of exact knowledge.

At a recent meeting of a national association of manufacturers producing a material used in enormous quantities for construction, a committee proposed a minimum quality standard based upon a standard specification to be established either by the association or by the association in collaboration with the Underwriters' Laboratories; that products complying with the standard be labeled; and that the quality and fire-resistant properties be attested by two separate labels or by a single combination label.

The discussion ensuing developed the fact that there was determined opposition on the part of some of the largest manufacturers to the adoption of any standards whatever. This opposition sprang apparently from the conviction that the establishment of standards always has the effect of leveling quality downward to the lowest acceptable standard and discouraging improvement. It

was pointed out that "cheap light-weight goods" were usually unprofitable to the manufacturer because of the nature of the competition in them; that "specialties" were the things that kept the industry going; and that if the product was standardized, competition would be placed on a purely price basis and salesmanship, initiative, and ambition would be unrewarded.

The business philosophy underlying such arguments is, of course, the philosophy upon which is based the so-called biological theory, and the false interpretation of "all against each, and each against all" commonly placed upon the Darwinian theory of the "survival of the fittest." It is interesting to note that the advocates of this extreme individualistic policy are apparently quite unconscious of its conflict with the evolutionary tendency among men toward association about and in support of common interests, toward coöperation and "mutual aid" which is, as Stuart Mill says, the measure of the advance of civilization. The opponents of standardization speak of the selling power of advertising without heed to the fact that the consumer pays the cost of all advertising. Advertising certainly has a legitimate and indispensable function to perform in the marketing of products, but it may be indulged in to such an extent by the manufacturer, and without cost to him, that it becomes economic waste added to the price the consumer must pay. Neither do these opponents of standardization as a means of uniting producers and consumers in support of their common interest in the product seem to understand the growing menace to industry of increasing overhead expense. The rate at which overhead is climbing in most industries is viewed with alarm and is forcing men to search for the causes. One of the causes is increasing selling costs, the increasing cost of passing the product from the manufacturer to the consumer. One means, at least, of checking this rising cost is the establishment of standards, standards that make intelligent selection by the consumer possible, and, consequently, a fair exchange of values in the market.

The fact that there is some justification for the argument that standards "tend to level quality downward to the lowest acceptable standard" should not be ignored. The causes of this tendency should be defined and understood in order that they may be met and corrected in the future. When proper standards are established and they are used by consumers as a basis of judgment, it will generally be found that the gain to the industry as a whole far outbalances any disadvantages. The cement industry furnishes an excellent illustration. The work of standardizing cement was initiated by the American Society of Civil Engineers and later was continued by the American Society for Testing Materials, the manufacturers coöperating with the engineers in the combined research. Today

there is one standard specification covering composition of cement and tests for determining its physical properties. And, as a result, the process of manufacture has been unified, and one standard product serves the needs of all consumers where in the past the manufacturer found it necessary to turn out as many as twenty-three cements of varying characteristics. The tendency which this standardization had to place competition on a "cut-throat" price basis has been successfully met by organization and the "open price." Cement is now being consumed in larger quantities than it ever would have been without the standard and without the cement manufacturers' organization—and at a reduced cost of production.

But in some other industries which have lacked organization and where standards have been established, not by agreement between producers and consumers but either by producers or by an outside agency, we find those conditions which the opponents cite as supporting arguments. The hollow-metal window industry furnishes an example. If a low insurance rate is to be secured, hollow-metal windows must carry the Underwriters' label which signifies compliance with certain minimum standards of fire-resistance. This industry, metaphorically speaking, is engaged in the business of selling labels and not windows. The fault does not lie with the Underwriters' Laboratories or the label system, or even with the manufacturers, but with the consumer who buys on price without an adequate knowledge and proper evaluation of the characteristics, other than fire-resistance, which make a window economical by reason of its long life, low cost of upkeep, and small air-leakage. The condition from which the hollow-metal window industry is suffering can be corrected by more complete organization and coöperation between producers and consumers.

Another illustration is that of the electrical industry where the minimum requirements of the "Code" combined with the consumer's ignorance of the perquisites of quality is largely responsible for destructive price competition.

All manufacturers, however, do not stand in need of education in standardization. The Institute recently received from the Elevator Manufacturers' Association a proposal that the two organizations undertake jointly the work of standardizing lifting capacities and car sizes for passenger and freight elevators. One of the stated reasons why the elevator manufacturers make this proposal is that if elevators may be manufactured in lots the cost of production can be considerably "cut down." Obviously, such standardization will be equally advantageous to manufacturers, architects, and building owners. And that is true of all intelligent standardization.

The reorganization of the American Engineering Standards Committee to provide for participation by all interested organizations in the work of standardization is an incident tremendously significant of future developments. The reasons for and objects of the reorganization are stated as follows:

"In many lines of engineering much excellent standardization work had been done before the war; the war emphasized its importance and showed most clearly the need of coöperation to prevent the confusion caused by the promulgation of overlapping standards by independent bodies.

During the war the Government Departments coördinated these efforts in certain lines and greatly assisted in unifying them. The American Institute of Electrical Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Civil Engineers, American Society of Mechanical Engineers, and American Society for Testing Materials, recognizing the value of what had been done, invited the Government Departments of War, Navy, and Commerce to appoint representatives to act with them to continue this work. The body so formed is the American Engineering Standards Committee. It has required considerable time to definitely formulate its objects and to arrange methods for accomplishing them that would be effective without in any way interfering with the many organizations that have been doing such excellent work in this line."

"The objects of the Association are:

1. To unify and simplify the methods of arriving at engineering standards, to secure coöperation between various organizations, and to prevent duplication of standardization work;
2. To promulgate rules for the development and adoption of standards;
3. To receive and pass upon recommendations for standards submitted as provided in the Rules of Procedure, but not to initiate, define, or develop the details of any particular standard;
4. To act as a means of intercommunication between organizations and individuals interested in the problems of standardization;
5. To give an international status to approved American engineering standards;
6. To coöperate with similar organizations in other countries and to promote international standardization."

The Proposed Construction Classification

In the Structural Service Department of the February issue of the Journal, the Committee on Structural Service announced that it was attempting to formulate a standard construction classification, and explained the reason why such a classification would be helpful alike to architects, manufacturers of building materials and contractors. With this announcement there was printed a portion of the proposed classification.

Early in April the Committee on Structural Service sent a copy of the proposed classification to the secretaries of twenty-five of the Institute Chapters. The suggestion was made that each chapter appoint a committee to consider the proposed classification and to report its views and recommendations back to the Committee on Structural Service, to be used by it as an aid in formulating a classification that would meet with general approval. Up to the date of this writing the Committee has received but four acknowledgments, and only one Chapter has acted upon the Committee's suggestion. The Committee considers the matter sufficiently important to warrant a second request for the coöperation and assistance of architects everywhere.

Copies of the proposed classification may be had upon request.

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Shadows and Straws

AT THE LAST CONVENTION, there was passed a resolution whereunder the Board of Directors was instructed to encourage the formation of state societies of architects, and to invite such organizations to coöperate with the Institute. The resolution was at some length and its substance has already been published in the Journal and may be found *in toto* in the annual proceedings. It thus becomes the duty of the Board loyally to carry out those instructions.

So far as expressions of opinion have been heard, it would seem that there are many members of the Institute who believe that the action taken at the Convention was both premature and ill-advised. They feel that, before committing the Institute to a policy of organization, it would have been wiser to await the recommendations of the Post-War Committee, which has been specifically charged with the study of this whole question and with the duty of making recommendations to the Board of Directors thereupon. But this is in reality a minor consideration to them, in comparison with the larger question of policy.

We venture to record the existence of a considerable body of opinion which believes that the very advocacy of state associations is in itself a self-confessed failure of the Institute, —a self-confessed failure of its ability to organize the architectural profession, and a placid avowal of its willingness to leave the problem to others.

In his address, on the occasion of the annual meeting of the Illinois Society of Architects, itself a state society, the President of the American Institute of Architects, in referring

to the resolution of the last Convention, said the following:

“To my mind it might have been better if the Convention had discussed the resolution at greater length. If they have accepted the idea that the state societies are to be stepping-stones to a greater Institute some day, then I am for them; if they have not, personally, I am against them, because I do not see wherein we gain anything by having parallel powers moving along toward one object, but not as one society. A little history will help out on that. In France and in England today, they are trying to undo the mischief they got into when they split up into many societies. Now they are trying in those countries to come together, to unify the movement of architecture under one banner in each country, and they are warning us strenuously to avoid the dangers and pitfalls of division. We cannot be sure, if we encourage state societies all over the United States, that they are all going to be like the Illinois Society of Architects. We are pretty sure that they won't be, and I believe we ought to consider very carefully, when we create a dog with a tail, that some day the tail may be big enough to wag the dog. . . . The state society, it seems to me, as I see it exemplified in Illinois, stands exactly for what we stand. I cannot see what should prevent the members of that Society from sending on their applications for membership in the Institute. I cannot see why the members of the Illinois Society hold that there is a difference. I do not believe that there is any difference. I believe you are for the same standards we are for, and I cannot see for the life of me why we should go along

separately. That is my feeling. I love the American Institute of Architects to the point that I am willing to criticize it. . . . It is the greatest good of architecture that I have at heart."

We understand very well the whimsy of President Kimball in his allusion to the dog and the tail, and yet we also confess to a belief that if a dog cannot handle his tail properly, the tail should have recourse. The tail, in this instance, is a great majority of the architectural profession in the United States, and it must have representation. But what President Kimball fears is no doubt a repetition of the Institute's history with its Chapters. As tails, they, too, became a menace, and the whole organization of the Institute and its Chapter relations had to be changed. And if the Chapters, with a non-Institute membership outnumbering the Institute members, were far from being a fruitful source of new Institute members, what hope is there that a state society will be any better or even as good a source?

President Kimball puts the question in a very practical way when he says: "Why should we be willing, as a profession, that any man should practise architecture who is not qualified to enter the American Institute of Architects? Why should we be willing to have a registration law and grant a certificate to a man who is honest and capable? And if he is honest and capable, he ought to be in the Institute." In trying to set forth to the people of New York State, for example, what is the qualification for an architect, how will it be explained that a man who is certified by the state cannot, through that certification alone, be a member of the Institute? What is to be the guide for the public? And why, to put the question plainly, should a member of the New York state society desire to become a member of the Institute? May it not be that this newest of state societies was organized in recognition of a belief that the Institute had not, and could not, organize the profession in the state of New York? And may it not be that the action of the Convention in first refusing to adopt the recommendation of the Board of Directors for a reduction in dues and an increase in membership thereby, and, second, in instructing the Board of Directors to encourage the formation of state societies instead, was construed as a

determination on the part of the Institute not to grapple directly with the problem of the tail?

To those who advocate a greater Institute, reaching out to include all those who serve honorably in the practice of architecture, no matter whether as draughtsmen or as principals, the principle of state societies seems entirely contrary to the whole organizational tendency of the day, the world over. Those who so feel regret that after the Board of Directors had charged the Post-War Committee to take evidence and report fully on this question, action upon it was not deferred until a future Convention might have laid before it many facts which were not known to the members of the last Convention.

The Journal takes no position on the question and recites these questions in justice to an opinion which is clearly of some considerable volume.

REGISTRATION, AS A METHOD of controlling the admission of architects to practice, seems to be becoming more and more highly considered. Since the last Convention in May, three states have been added to those having a registration law in force. These are Oregon, Washington, and Pennsylvania, the law in the last-named state having been enacted by the legislature and signed by the Governor about the middle of July.

The suggested form of registration law, authorized by the Convention of 1918, was published in the last number of the Journal. In the course of time there will be few architects in practice except those who have been admitted as having qualified under the laws of the state wherein they reside, and it may be safe to assume that the standards of constructional ability will at least have been raised by such laws. But this likewise presupposes a condition under which the laws of the several states will likewise conform to standards at least as high as those recited in the Institute's model law.

But the collateral problem of organization cannot be ignored. The day of more liberal organization along vocational lines is already here, and with the pressing problems of rising costs already clamoring for relief, it will some day become evident that they cannot be solved except by a new economic intelligence on the part of all organizations. C. H. W.

The Heritage of the Cities Movement in America

AN HISTORICAL SURVEY

By LEWIS MUMFORD

I

The Birth of Civic Consciousness in the United States

CIVIC renaissance is the mark of the age in which we now live. It is an age which finds itself recovering the cultural attributes of Periclean Athens, restoring the political controls of fifteenth-century Bristol, and recreating the social qualities of Dantean Florence. The date of this new birth in American cities can be set definitely on the anniversary of that elder renaissance which the voyage of Columbus dramatically marked; and it is roughly coincident with the beginning of the transition from the coal and iron régime of the older industrial order to that of electricity and petroleum upon which the more modern world is based. The year was 1892; the place was Chicago. What was then the dingiest of American cities, as smutty as Pittsburgh, as sprawling as Philadelphia, as vastly prolific as New York, and as proudly oblivious to its disabilities as all of them, this slattern of the Great Lakes was delivered of a miraculous child—the White City of the World's Fair.

The White City proved a stimulating spectacle, alike for layman and architect. Its ordered layout, its preconceived development, its aspiring orchestration of the arts of architecture, sculpture, and hygiene made it the physical embodiment of what every other American city was not. The Windy City of multiplying population and limitless nominal wealth found itself sternly confronted with the White City of tangible goods and gratifying services, and the noise of its financial pretensions seemed little better than the sound and fury of the element that described it. The bubble of self-gratulation was pricked. "Unparalleled national prosperity" was a phrase which failed of edifying realization in either city or home. Instead of the solid opal of municipal achievement, people saw only a thin film of iridescence, swollen by the wind of realty speculation.

With that perception the rebirth of American cities began. Within a scant decade following, a National Municipal League was formed, and the first reports on city development appeared.

It is to the credit of the White City that it sent flaccid imaginations back to the drab perspectives of New York and Philadelphia with a keen sense of the possibilities inherent in the art of city-planning. But, unfortunately, the White City did not provide, along with this vivifying idealism, any sober intimation of the fundamental obstacles that made any sudden transformation impossible except in terms of lath and plaster. The model city was too much a platonian concept, divorced from the grubby actualities of home and factory, street and store, family budget and the law of rent. So there followed for nearly two decades the now-reviled movement for the City Beautiful.

The new idea was that beauty could be superimposed upon the work of the jerry-builder and the speculator by getting an electrician to light up the main thoroughfares, an architect to rear a classic city hall, a sculptor to sprinkle a few monuments, and the local municipal engineer to carve up a public place. And the result was, of course, not beauty to satisfy the artist, but conspicuous expenditure to satisfy the businessman. The aim was indeed simply to "put on a front." Ruskin had wisely said to the workmen of England: "Let there be no assumptions of anything, or attempts at anything, but cleanliness, health, and honesty, both in person and possession . . . and what you can afford to spend for the splendor of your city, buy grass, flowers, sea and sky with." The early city embellishers were content to let dirty streets, dishonest architecture, and diseased habitations remain, as long as the city could acquire, by discreet expenditure, a commercial reputation for opulence, grandeur, and beauty.

This detachment from earthly realities was the evil side of the White City's example. It resulted in an abortion of effort as the exaltation of the moment gave way, as in an opium dream,

to a more permanent depression. But it is not alone to this misleading model that our past and recent failures must be attributed. The background of the adolescent city was lamentably thin, and the businessman was not wholly to blame for indulging puerile fantasies as a refuge from reality when neither the sociologist nor the geographer, neither the philanthropist nor the statesman, had made any coherent effort to steady the city's purposes and indicate large and manly tasks for its hands.

The weakness of the first stage of the city-planning movement was the result of an historic heritage. Without understanding the nature of this heritage, on its political as well as its technical side, reconstruction must remain on the same level as the order it seeks to replace, and, accordingly, must suffer its singular limitations and defects. Heretofore the city planner has lacked guidance; for the very forces which contributed to the decay of cities created an atmosphere of scholarly indifference which served only to hasten this down-grade tendency. Contrariwise, the present civic renaissance has stimulated sociological theory, and it is from the standpoints of such scholars as Professors Patrick Geddes and H. J. Fleure that I purpose now to discuss the failure of the American city on the basis of its heritage, and the weakness of the cities movement in the light of this failure.

II

The Law of City Making

What is the City? How did it evolve and to what purpose?

During the nineteenth century, when cities grew and reproduced prolifically, it seemed as though no one had an interest in these questions, or, at any rate, was able to answer them. Until a late date, discussion outside historical circles referred to cities as though they were peculiar to railroads and steamships and multiple operating machines and had been non-existent in an age of highroads and galleys. It is not that men were completely unconscious of the existence of Sidon and Tyre, of Babylon and Nineveh, of Rome and Athens, of Ghent and Bruges, but that they were unconscious of the relation by birth of the modern American cities to those of ancient stock. With this was coupled an obtuseness to the significance of the city as evidenced in the

economy of the ancient and medieval political systems.

To account for this blindness to civic realities one must take into account the far-reaching changes that had been effected by the breakup of the town system upon which the medieval order was founded. The medieval state was a federation of temporal powers under the spiritual rubric of a universal church. This order was not, as was wrongly conceived during the nineteenth century, given to stagnant localisms; it developed, on the contrary, a ramifying net of social relations which gave community to cities and guilds that were widely separated in space, and served in its loose federalism to give the precise degree of coördination that was favorable to an adventurous working out of the medieval scheme. The towns of the Hansa League or the Cinque Ports or the Lombardy Plain had much more in common when they were in active union for the pursuit of trade or resistance to aggression than they have at the present moment as members of states that only indirectly subserve joint civic enterprises.

What brought about the débâcle of this vigorous state of affairs is something of which no casual analysis can give more than a glimpse. I conceive it as due to an element which the human geographer can perhaps interpret in broad terms more clearly than the historian.

In the various economies that the geographer analyzes in his ideal valley section, from forest slope to alluvial river-mouth, the hunter economy is that which he finds at the headwaters of civilization, the most primitive, while the city is that which appears, with the accumulated contribution of various intervening stages, at the final effluence of the river. Civilization does not, as a passing political school held, progress from one stage to another, adopting each economy in turn and abandoning the last one as it goes on to the next; rather all of these economies tend to persist within their appropriate regions, and, as each in turn evolves, its fragments of culture are carried forward, like the river's burden, into the ultimate city. What is implied in progress is not leaving the old behind but carrying it forward to new levels.

Now it is probable that the city requires a functional adaptation to its economy of mechanical occupations different from that consonant with any other regional phase. Accordingly, the

THE HERITAGE OF THE CITIES MOVEMENT IN AMERICA

city either evolves or selectively enrolls men whose habits and inherited dispositions fit them to a peaceful life of orderly effort continuous from season to season. In his pioneer work on "Human Geography in Western Europe," Prof. H. J. Fleure has courageously attempted to indicate what particular urban occupations prove congenial to particular regional and anthropologic types. And while we may shy at the danger of prematurely identifying individual types with individual occupations, we must recognize in a general way that there is some regular correspondence between the human stock selectively developed by a particular region and the sort of occupation to which it gravitates within the city.

But because in the economy of the valley section the city arrives on the scene at the latest stage, and is slow to evolve institutions suitable to its own internal régime, the *mores* appropriate to other regions are at first in the ascendant, and it becomes a matter of contest whether the predatory habits of the uplands or the peaceful habits of the lowlands are to prevail.

The conditions favorable to a régime of peaceful habituation to urban life are freedom from external interference through isolation, and the presence of a thriving population inured to agricultural pursuits. It is under these circumstances that the settled life of the "Bauer," as Messrs. Geddes and Branford point out, becomes the city life of the builder. Historically, however, no town during the Middle Ages evolved for more than a relatively short time under these conditions; indeed the only land that was to a great degree immune from predatory attack was insulated England, and this chiefly in the southern part. Hence most cities were forced by the circumstances of their existence to lose their real reason for existence, and by accepting bellicose methods they eventually succumbed to a decisive organization of militarists from the hither end of the valley section. The animus of these hunter-warriors leads them not to the tasks of construction but to those of expansion; they regard every valley section from summit to base as their hunting-ground and proceed to organize the whole country under the stimulus of prospective extensions of territory on the basis of perpetual wardom—the so-called peace of the belligerent, all-powerful, sovereign state.

III

The Power of the City

Animate this geographic theory with the breath of European history during the first eight hundred years of the past thousand, and its vital application becomes plain.

From the tenth century onward we witness a clamorous conflict between burgher and baron, between the commoner of the democratic town and the lord of the forest and park. This conflict is both local and "national." In the first case it has its ups and downs, and its outcome is conditioned to some extent by the fact whether the opponent of town organization is baron or bishop. But if there are sporadic successes in these local combats with the lords of the sword and the crook, the cities are able to get their charters of privileges only by enlisting in the fight against the wolves at the head of the pack. That is to say, by a double maneuver in every country but Italy and Germany (so long to remain disintegrated) the sovereign demolished his great rivals within the warrior band by elevating the cities, and then used the dispersed powers and loyalties he had gathered unto himself in the mêlée to inflict a blow upon the very agents that enabled him to triumph.

The power that brought local victory to the cities brought them under the "national" thumb. The results may be described abstractly as follows:

The victorious warrior adapted the manners of civility, abandoned his restless military leadership, and set up the royal establishment in the capital city. Thus far the hunter capitulated with the citizen. The city, on the other hand, was forced, under this infusion of hunter blood, to take over the *mores* of the predatory sovereign, and by this act to renounce the peculiar functions and economies that justified its existence. In this manner were fostered the extraordinary aggregations of sixteenth century London and Paris, and thus, with little difference in purpose or manner of growth, appeared at later dates Berlin and Petrograd, war capitals all, each to remain until the last quarter of the nineteenth century without rival for "population and wealth."

The real significance of founding a national capital is glossed over if one continues to think of the exalted city as differing in no other way

but magnitude from towns of lesser importance. The capital does not exist at the will of its citizens: it exists at the will of the state, and, if incidentally it serves the citizens essentially, it is an instrument of the state. The capital itself is a necessary part of the equipment of the state for conducting its administration, finance, government, and foreign affairs. This truth is readily recognized. What is not so generally perceived is that the "state" in turn becomes an organization by means of which the military capital, nominally representing a whole country, controls the destinies of lesser cities and their immediate regions by stamping authoritatively as "national culture" or "national policy" interests and outlooks that are peculiar, for example, to the Thames Basin or the Prussian Plain.

It was in this coalition of the capital city as an instrument of state organization (whether henceforth kingly or parliamentary matters little), and the state as an instrument for extending the governance of the capital, that a formidable machine was created at the close of the Middle Ages for disrupting the ancient distribution of civic and social functions. Not till the "national" capital was created did the provinces really become provincial. Thenceforth the leadership of London and Paris meant the literal decapitation of the lesser regions. What was important enough to exercise the local community was important enough to bring into action the state. The citizen who wished to utilize the privileges of citizenship discovered that he had to identify his purposes with those of the state in order to make them effective.

IV

The City in Conflict with the State

In painting the effects of this transformation in black and white I deliberately erase all qualifying gradations. For it is with the new direction in civic affairs that we are concerned, and not with the number of points the triumphant ship of state was blown out of its course by the still vigorous winds of civic doctrine.

How complete the substitution of the concerns of state for those of cities really was we note immediately as soon as we inquire into the relations between the old municipal corporations and the new all-embracing corporation that ex-

isted on the new continent where the medieval tradition was no more than barely rooted. Here we read the same tale in a different dialect. At first we discover in Philadelphia, New Amsterdam, and Boston a young shoot whose structure resembles, in every aspect, the parent stock that existed at the close of the Middle Ages.

The colonial city is not a haphazard accretion of buildings: it is primarily an active corporation. Citizenship does not follow from membership in the colony: it must be obtained by deliberate application. The city does not simply act as justice of peace, jailer, hangman, and soldier: it sets up markets and provides municipal slaughterers; it establishes inns and oversees the relation between host and traveler; it fixes standards of weight and quality and regulates traffic so as to prevent forestalling, regrading, and similar disorders of the market, and it periodically redetermines the price of bread. These activities, for instance, have been well described in a freshly documented work by Peterson and Edwards on "New York as an Eighteenth Century Municipality."

We see the city exercising, during the pre-revolutionary period, a number of powers which the political scientist often assumes to be peculiarly those of the state. For about a century and a half the cities of the Atlantic seaboard continue to exercise these functions. Colonial administration exists for the sake of bringing coherence into the relations between city and countryside, and it is not for a moment thought that the city exists at the will of, or for the sake of, any regulative super-organization. No one proposes that Franklin's Postal Union shall look upon the city as an organ of its administration. The emphasis is rather the other way about. The state function was developed in response to the need of cities for effective communication.

This colonial economy of cities is upset, the geographer again sardonically notes, by the institution whose animus and technique rose in origin at the hither end of the valley section. Whatever the constitutional merits of the colonies' objection to North's fiscal policy, the employment of the hunter's technique to make these objections effective had an inevitable result upon the character of the state which raised itself above the welter of the subsequent disorder. The war of independence, which made

THE HERITAGE OF THE CITIES MOVEMENT IN AMERICA

the colonial state free of its progenitor, made the colonial city dependent upon the state.

That which the sovereigns of Europe had accomplished by a long and tedious process was brought about in America at a single stroke: a *coup d'état* indeed.

The results of this upheaval were not in the least mitigated by the early American practice of local self-government under the orthodox interpretation of residual powers. The very motto that supported this interpretation, "State Rights," points sharply to the fact that local self-government was exercised by the very image of a national state—merely written small. Hence the doctrine of local self-government, so far from freeing the city's functions from the mandates of the state, only contrived to bring them under the jurisdiction of an *additional* state. Out of this historic situation grew the attitude of the jurist and the political scientist to the American city.

Now it is notorious that lapse of function is accompanied by organic decay, and the surest way of making the city a breeding-place for political corruption was by putting its normal functions into the hands of the state, and then holding up the ensuing incompetence and lassitude on the part of municipal officials as substantial reason for putting every power in custody and treating the city itself as a mere administration district. In America, or to speak more definitively, in America's leading city, the old tradition did not entirely die out, and the new tendency did not become altogether dominant. The position of the city during the nineteenth century was rather betwixt and between, with the drag in theory favoring state arrogation, and the counter-pull in practical affairs making necessary a re-bestowal of the functions which the state had usurped in principle but found difficult to exercise in practice.

This centralizing movement was doubtless abetted by the numerical overthrow of the indigenous American stock in the cities, as a result of the immigration that took place from 1820 onward, and the necessity the colonial oligarchy were confronted with for joining forces with the preponderantly native rural population in order to maintain their control on municipal affairs. Thus the state was synonymous with the established order. The city stood for the threatening rabble of newcomers whose skep-

ticism of that order led to their exodus from their various fatherlands. The proletariat had reason for stripping power from cities like New York wherein, as the Rev. William Bannard pointed out in 1851, the German immigrants profess atheism "married to socialism of the rankest school. They declaim against the rights of *property*, denounce the marriage institution, and cry 'Down with the Church!'"

Presumably the safety of the established order demanded the paralysis of cities. A satisfactory "reason of state."

V

The City and Citizenship

The antipathy and antagonism toward cities which I have been describing was not confined in its effects to the domain of politics. There were also correlative material results. The proliferation of the new industrial order accentuated the political weakness. The decay of corporate unity went hand in hand with the decay of local unity.

The notion that the city was merely a "political subdivision," one member of a hierarchy of administrative districts, caused the city to extend its political jurisdictions without undergoing any material adaptation. On the basis of the American city's political heritage there was no room for Rousseau's distinction that whereas "houses make a town, citizens make a city." The American town grew; the houses and shops, roads and factories spilled past "city limits" and sprawled into the countryside; but the American city did not grow. In the course of the century it all but passed out of existence. The citizen of the colonial municipality was transformed into the denizen of the imperial "mass city."

In the days before the era of rapid transportation, the physical town was coincident with the community. Even in Greater London this identity existed because, in spite of amazing growth, the parish, though decadent, formed a real community within the growing concourse of communities. The extension of the American town within the limits of an administration district determined by the state did away with this congruency of the physical and the political community, for the reason that whereas the physical limits of urbification are indefinite and may be extended by laying down avenues and

Transition and Its Problem

building houses, the political limits of a city are closely defined. With respect to this definition the words of Plato cannot be improved upon: "So long as the city on its increase continues to be one, so long may it be increased, but not beyond it."

Now the city, properly speaking, exists not by the fact of accretion, but by the act of association. The institutions, such as churches, clubs, libraries, gymnasia, theaters, and so forth, which function on the basis of local intercourse, can serve through their individual units a certain quota of citizens, the number differing with respect to the kind of function and the frequency of its exercise. When the population of a local community (anciently called a city) is doubled, civic life cannot be carried on effectively until each unit is duplicated—in other words until the *meeting-places* of a new community are founded.

The weakness of our plans for city extension in America, with their debasing imitations of Paris and Berlin, lies in our failure to perceive the significance of this fact. The city planner has thought in terms of state rather than civic functions. Dormitory areas are accordingly increased, or population is added intensively by means of the tenement, or both of these tendencies go on at the same time, without any adequate and concerted effort being made to increase correspondingly the civic "plant and equipment." *At no period in the development of American cities have the instruments of citizenship kept pace with the vaunted growth of cities.* The physical town has led; the city of polity, culture, and art has lagged. Thus the members of the community have become debased into individuals (as Prof. Patrick Geddes says) instead of being elevated into citizens. What happens then to the city may well be put in the words of an English poet who saw something of like nature in his own day, some four centuries back.

. . . Officers and all
Do seek their own gain,
But for the wealth of the Commons
No man taketh pain.
And hell without order
I may it well call,
Where every man is for himself
And no man for all.

—ROBERT CROWLEY. Quoted by W. J. Ashley, *Introduction to English Economic History*, Vol. I, Pt. 2, p. 47.

To sum the argument up briefly. It is in terms of a lapse in political functions through the historic change from the town system to the state system, and the increase of city populations without the effort to develop new political controls, that the state of the American cities materially and spiritually before the civic renaissance must be gauged. Crime and vice, folly and disease, the disabilities of the "model" tenement, the graft of Tweed, the corruption revealed by the Lexow investigation, are to be explained ultimately in these terms. It was under this historic burden that the American city labored before the Chicago Exposition awoke it from its long hibernation, with the call to introspection, survey, and self-development.

If we have developed any definite idea in the course of this cursory analysis it is surely this: that the reconstruction of American cities is a political as well as a technical affair. It is not merely a matter of construction; it is also a matter of constitution.

The architect, the hygienist, the city planner, and the municipal engineer have indeed a magnificent part to play within their fields. From these groups the first impulse toward civic improvement came, and in their first hasty attempts to cover up the deep-seated defects of the older order they did much to expose these defects. No change in the political structure of local communities can hope to be effective unless it can get itself embodied in appropriate structures within a comprehensive city design. Admittedly reconstitution implies reconstruction, as inevitably as the breakup of the German and Russian empires implies a transfer of power and prestige from Petrograd and Berlin to lesser cities.

What is of importance at the present moment, however, is the reverse of this dictum: for current emphasis tends to treat the problem too closely as one of mechanical engineering. The agents of this needed reconstruction must be the reconstituted cities (that is, the local communities) themselves. The development of their functions calls for an ardent research into the problem of political engineering, for the purpose not merely of building up the town but of maintaining the city.

The Competition for the Federal Buildings, 1792-1793*

IV. THE COMPETITORS AND THEIR DESIGNS

By FISKE KIMBALL and WELLS BENNETT

The Maryland Builders, continued

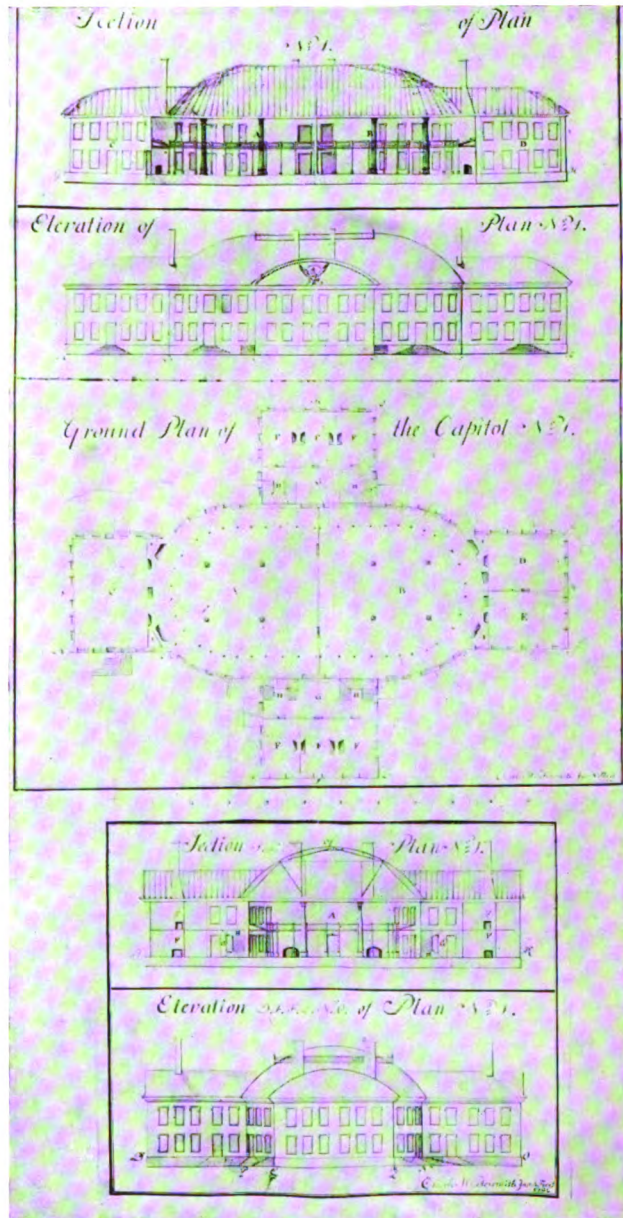
PHILIP HART

PHILIP HART'S residence in Maryland is indicated by the Commissioners' mention of the receipt of designs by "William Hart of Toneytown,"¹ which is, of course, Taneytown in western Maryland. This is corroborated by the census of 1790, where the name of Philip Hart appears among the heads of families residing in Frederick County, his household consisting of ten persons and no slaves. Taneytown, laid out in 1750, long formed part of Frederick County, although it is now in Calvert County.

The work of Philip Hart is as little known as his personal life, and his status as a designer can be judged only from the drawings submitted in the Federal competitions. Inspection of these designs reveals the hand of the carpenter-builder, with little knowledge of the principles of design or of draughtsmanship. Hart had evidently had experience as a builder, for in the Capitol plan he laid out the required rooms with close attention to the chimneys and the bearing of the partitions, and with especial concern for convincing the judges that the roof could be easily spanned by a truss. His planning, however, leaves four windowless rooms, and his limitations are further betrayed both by the over-numerous columns in the interior and by the ludicrous sculpture of the elevations.

Though untrained, Philip Hart had the taste to choose as his model no less a building than the Farnese Palace, represented in several early engravings. The copy is closest in his design for the President's House. The unbroken façades, the three stories of elaborately framed or pedimented windows based on those of the lower story of the palace, the flat belts between stories, the columnar feature in the center, together reveal the designer's inspiration. Certain points of difference may be easily explained. The window treatment of the lower stories of the Farnese Palace was also carried through the

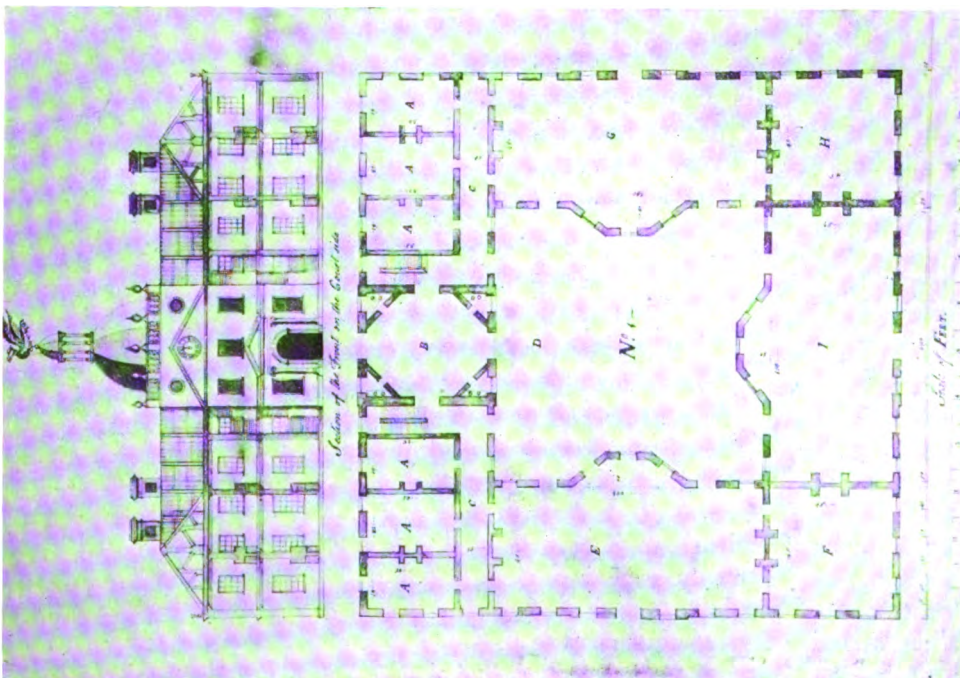
upper ones to save expense; the balustrade was added in deference to the then prevailing prejudice against visible roofs. The details of the end doors and of the Palladian windows are on the formulæ of the elementary builders' guides. The



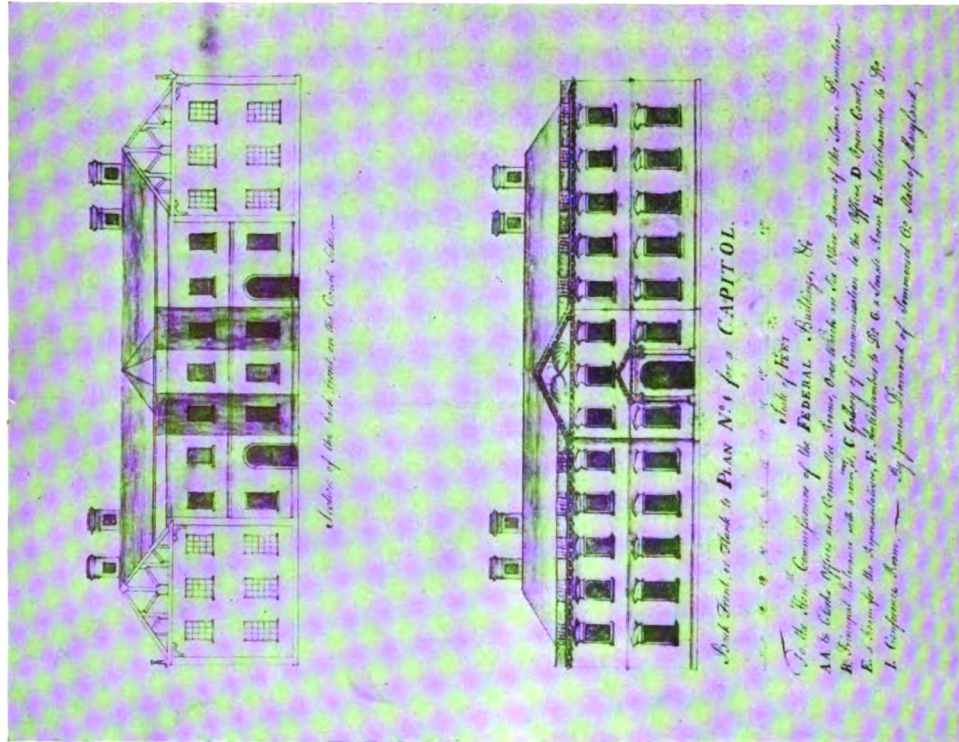
DESIGN FOR THE CAPITOL
Charles Wintersmith

*Continued from the May issue.

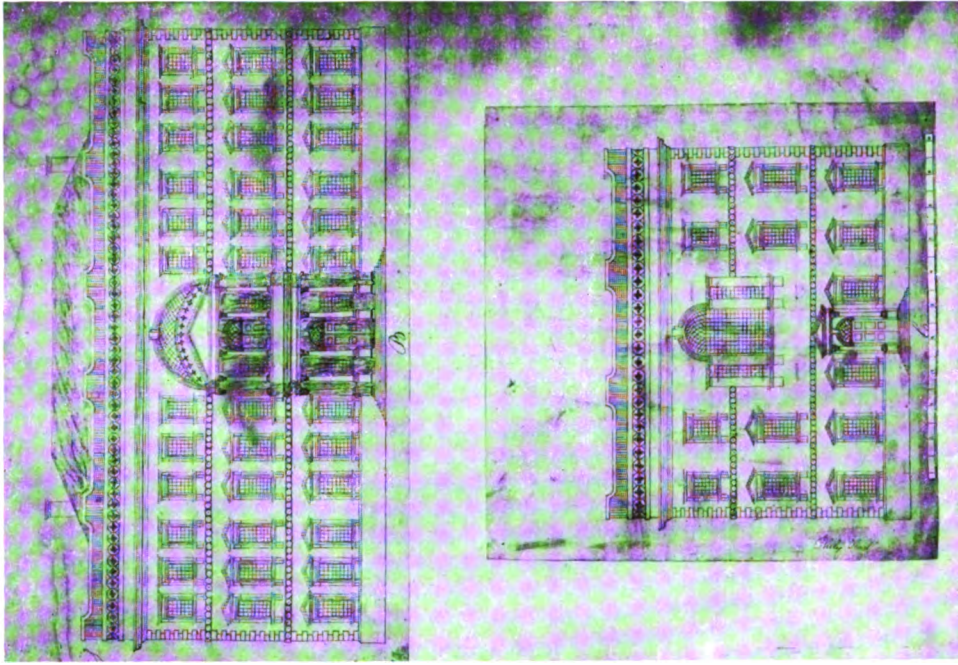
¹Letter of the Commissioners to Jefferson, June 6, 1792, "Documentary History of the United States Capitol," p. 16.



"PLAN No. 1" FOR THE CAPITOL
James Diamond, Architect



ELEVATIONS FOR "PLAN No. 1" FOR THE CAPITOL
James Diamond, Architect



ELEVATIONS FOR THE PRESIDENT'S HOUSE
Philip Hart, Architect



PLAN A FOR THE CAPITOL
Philip Hart, Architect

same inspiration appears, though less clearly, in the Capitol façade, in which not only the similarity of details, but the retention of a third story—entirely superfluous in relation to the program—reveal the model. In the erased columns in the President's House plan we may see, perhaps, an attempt to adapt the famous Farnese vestibule, but the scheme was felt to be too complicated or too daring.

CHARLES WINTERSMITH

Our knowledge of Charles Wintersmith, aside from his Capitol design itself, is mainly derived from a letter of his to Jefferson, protesting against the competition award.¹ As this is dated Georgetown, and speaks of the impossibility of the writer's leaving home, it is reasonable to



GRIMSTHROP IN LINCOLNSHIRE, 1723

Sir John Vanbrugh, Architect

From the Engraving in the *Vitruvius Britannicus*

assume that he was also a Maryland man. The letter, though a trifle long, is worth quoting as a whole for its quaint diction and for the modernity of its complaints about competitions, as well as for the information it contains, in and between the lines:

Dear Sir:

From the convincing proof of your great skill in Mathematical Sciences I address myself to you. I made a plan for the Capitol according to the advertisements the areas of the Rooms as required, and the Calculation of Brickwork. The Rooms for the Representatives and Conference Room could not be smaller except being crowded, which you will find by the Calculation, except placing them under the Gallery. It induced me to believe the Commissioners wanted a plain Building Strong, Symetrical and of an Oeconomical plan, and this Sir by proper Examination you find fully effected and agreeing

¹Department of State, "District of Columbia Papers," Vol. 1, 105.

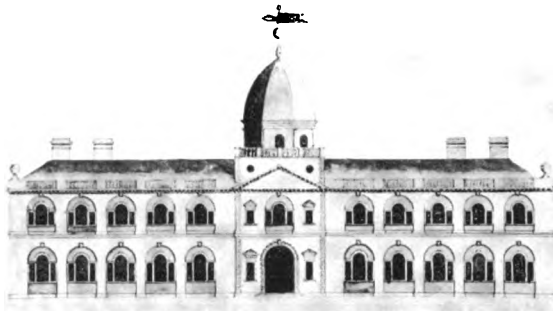
exactly to the Ground; and will also find the 4 Elevations are alike, again the 4 round Elevations the same, also everywhere Symetry—but alas! my plan was not noticed, nor called for full Explanation like the others was done, if it could be build or lined outside with Stones of which I understand they had a Notion; May be, So many excellent plans with lofty Cuppolos, Columns, Arches and Carvings draw'd their Attention from mine plan, Oeconomical and Symetrical Plan. But in the name of God! could I draw a flourishing Plan according to the Advertisement and of Brick Work how easy could I have done that, if I had but know it—These kind of Plans are in my Country always first made in a Superficial Way, to give a general View and Idea, and if they are found well calculated and particular in the Ground Plan, and every way light Sufficient, no obtruding Passages or ill laid-on Stair Cases, not weakened by shewy over-large Windows, the Corners of the Walls well Supported etc; Then when adopted the Architect is ordered according to the Sum they want to Expend, to make plans in large Scale, with all the Elegance, Cuppolos, Columns, Arches Porticoes and Carvings, and in detached large Draughts for the Workman;—now what fault else, was my plan too large? well when the Idea and Invention pleased, it could have been made Smaller accordingly in the large Plan; was the walls too low, could that not be made higher; if they wished an Elegant Cuppulo wey how easy and effectfull could that be place on mine, and in particular if the House had been Arched with Bricks, which would Spare the inside Columns and the frame for the Ceiling and rafter Work only by laying in Small Scandlings in Rows between the Bricks to nail on the Copper or Lead Sheats; wished they instead of a plain foundation, Small or lofty Arches how easy could that be done—Also I think the middle Partition Wall could be made of Pennal Work with hinges, that both large Rooms on great Occasions might be opened into One—but from all those Explanations I was deprived, So often I waited in hopes of being called. And how could I spare time in my poor Employment, to make at random a large Draught with all Decorations and loose monthly labours and much Expenses on a Venture to my greatest injury, and would also fall the Premiums on the rich Architects only, when the poorer Sort perhaps of better Skill thereby deprived. My attendance at home requires, as also my purse, will not allow so that I am deprived of the honor of waiting on you myself. These two worthy Gentlemen, which will present this and the Plans to your Excellency, flatter me, and being so fully convinced of your most generous Character and of which I am convinced when I had the honor of waiting on you at Albemarle in 1778 when Officer of the Engeneur, and D. Q-G to Burgoynes Army (tho perhaps escaped your Memory by your long Travels and extensive Employment, that you would bring on another Examination if your Excellency would think it proper of its Merits, In Expectation granting me this favor and humbly begging pardon for the freedom I have taken I have the honor to be with due Respect

Your Excellency'
most devoted humble Servant
Charles Wintersmith

George Town
July 17- 1792

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793

From this letter it appears that Wintersmith, as his name (Winterschmidt) might suggest, was a German—a “Hessian”—formerly with Burgoyne’s army. A published list of “Officiere des herzoglichen braunschweigischen Corps, Grenadierbataillon,”¹ contains the name of Lieutenant Winterschmidt. These troops were among those captured at Saratoga, and he was doubtless one of the “Convention troops”



ALTERNATE ELEVATIONS FOR “PLAN NO. 2” OF THE CAPITOL
James Diamond, Architect

quartered at Charlottesville at the time of meeting Jefferson in Albemarle.

His design is in keeping with the military engineer. That it is compact, straightforward, and economical cannot be gainsaid, but, in spite of Wintersmith’s protestations as to the propriety of this simplicity, a barrack-like crudity of planning and a lack of architectural quality is but too apparent. The Commissioners were evidently unable to see in it even the elements of a pleasing design.

JAMES DIAMOND

Regarding James Diamond we know little beyond what is told us by his competitive draw-

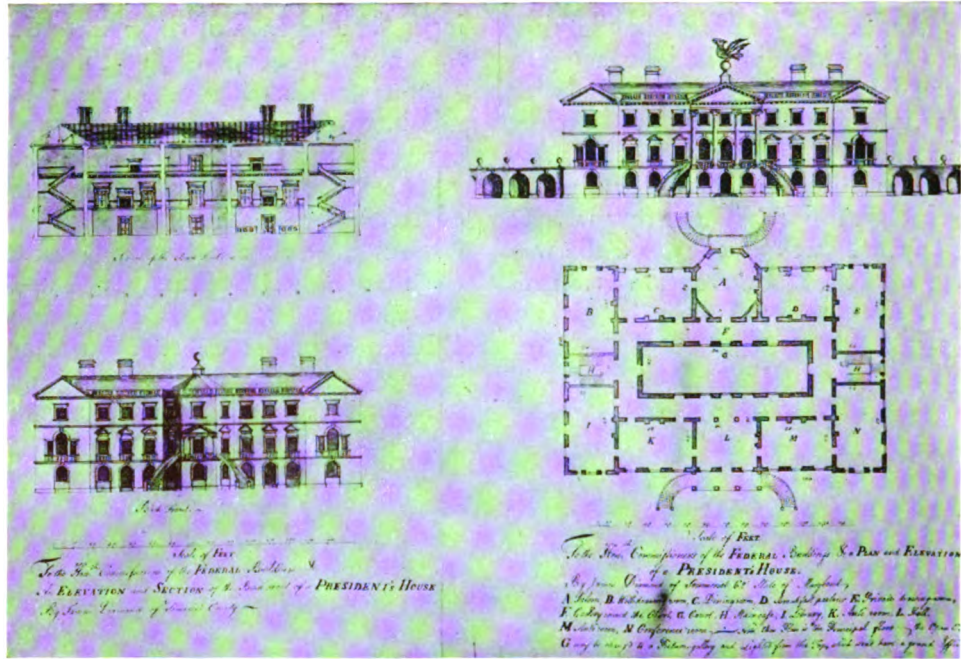
¹Max von Eelking: *Die deutschen Hilfstruppen in Nordamerikanischen Befreiungskriege 1776 bis 1783*, vol. 2 (1863), p. 269

ings. The legends of these state that he was of Somerset County, Md., at the very end of the Eastern Shore. The census records of 1790 are missing for Somerset County, so we do not know even what was the size of his household or whether he owned slaves. The marriage licenses of St. Mary County, just across the Chesapeake, show that a James Diamond—perhaps the man himself, perhaps a son—was married November 23, 1807.¹ The recent volume on the old houses of the Eastern Shore makes no reference to him, and shows no buildings which must unmistakably be assigned to him on grounds of style alone.

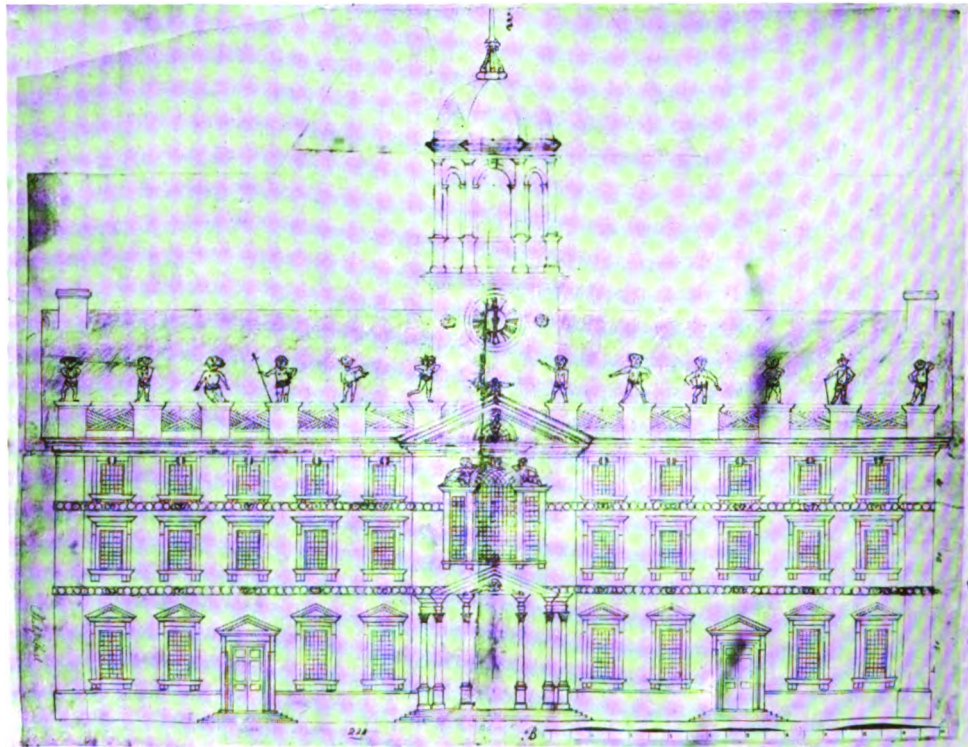
Fortunately, his drawings themselves give an exceptionally clear idea of his architectural relationships. The absurdity of scale of the eagles crowning his buildings should not blind us to his display of an acquaintance with the formulæ of academic architecture quite surpassing that of the other Maryland men whose designs are preserved. In the Capitol design, to be sure, it is only the elementary formulæ which are employed, much as they had been used in a few of the most advanced pre-Revolutionary buildings. Like Christ Church in Philadelphia and Faneuil Hall in Boston, it has its windows framed by an arch order. Like the Miles Brewton House in Charleston, it has a central feature of superposed orders and a pediment. The motives are applied individually, with little organic relationship and many minor solecisms of detail.

His design for the President’s House, however, instead of showing merely this fragmentary character, conforms as a whole to the academic formulæ most widely accepted: a tall portico over a basement, with end pavilions and more grammatical detail. This greater degree of organization and orthodoxy lead one at once to suspect the following of some published design, and to search in the contemporary architectural publications. It develops that although Diamond does not seem to have followed any single prototype in all its parts, his façade is a composite of several in the *Vitruvius Britannicus*, chief of these being that of Grimsthorp in Lincolnshire (vol. 3, pl. 13). The points of similarity with Grimsthorp include the tetrastyle Corinthian portico over a basement, the number of bays in the curtain walls, the iden-

¹Brumbaugh: “Maryland Records” (1915), p. 335.

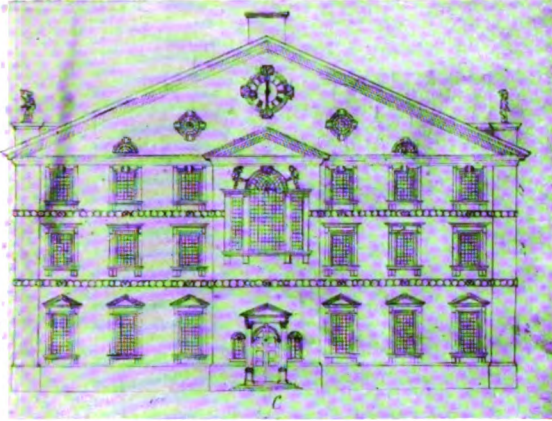


DESIGN FOR THE PRESIDENT'S HOUSE
James Diamond, Architect

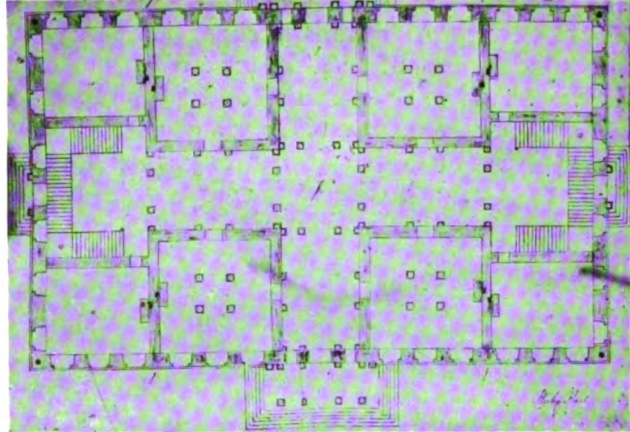


MAIN ELEVATION FOR THE CAPITOL
Philip Hart, Architect

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793



END ELEVATION FOR THE CAPITOL
Philip Hart, Architect



PLAN FOR THE PRESIDENT'S HOUSE
Philip Hart, Architect

tical Palladian windows in the pavilions. Almost the only major difference is that in Grimsthorp the end pavilions rise above the main cornice, whereas in Diamond's design they are merely crowned with pediments. A minor difference exists in the basement openings, those of Diamond closely resembling the ones in another

building of the *Vitruvius Britannicus*, Woburn Abbey (vol. 4, pls. 22 and 23), which has likewise Palladian motives in the wings. Thus we see that Diamond was familiar not only with the elementary handbooks of the orders, but with the folios of academic ensembles.

April 26.---eot-ff.

ARCHITECTURE.

THE subscriber has removed his family to this country, and fixed his residence in Nashville, where he offers his service to design and execute Public and Private Buildings. Gentlemen in the country can be furnished with Ground Plans and Elevations, by sending the size of the intended building.

HUGH ROLAND,
Opposite the Presbyterian Church.
N. B. H. R. will execute in the country, or furnish Drafts on a large scale for the Carpenter.

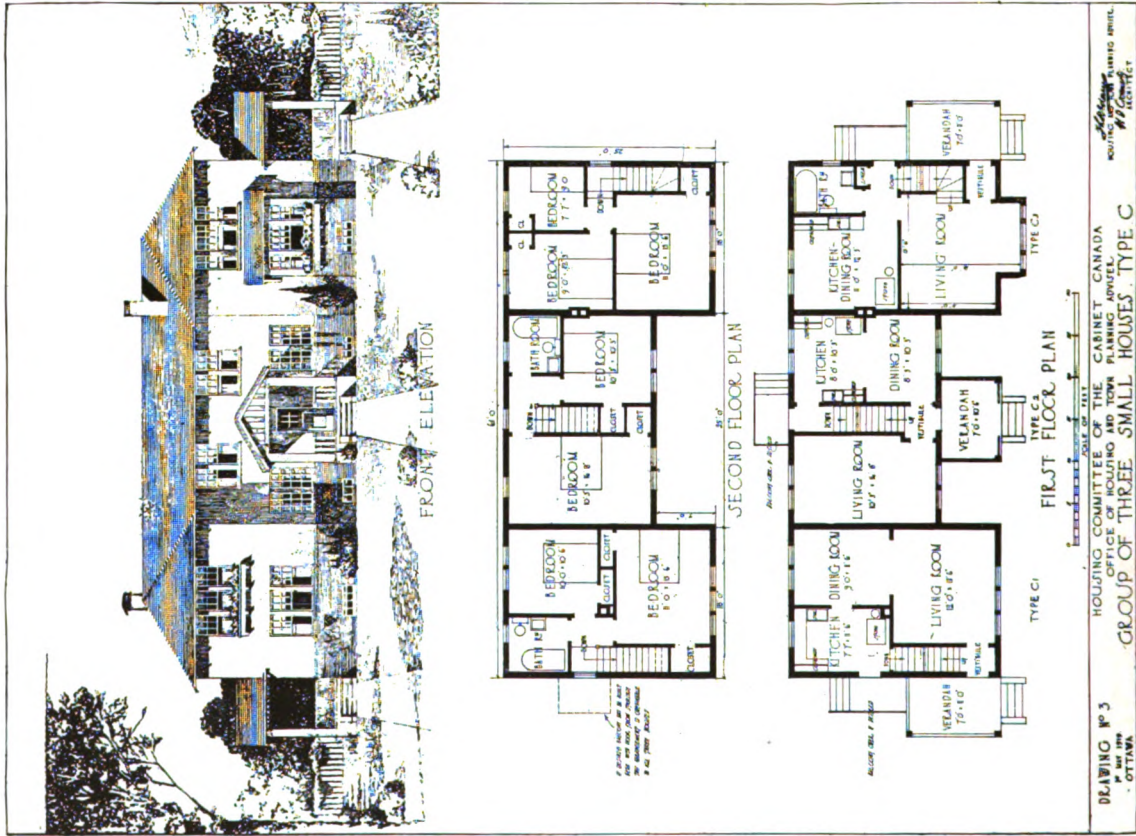
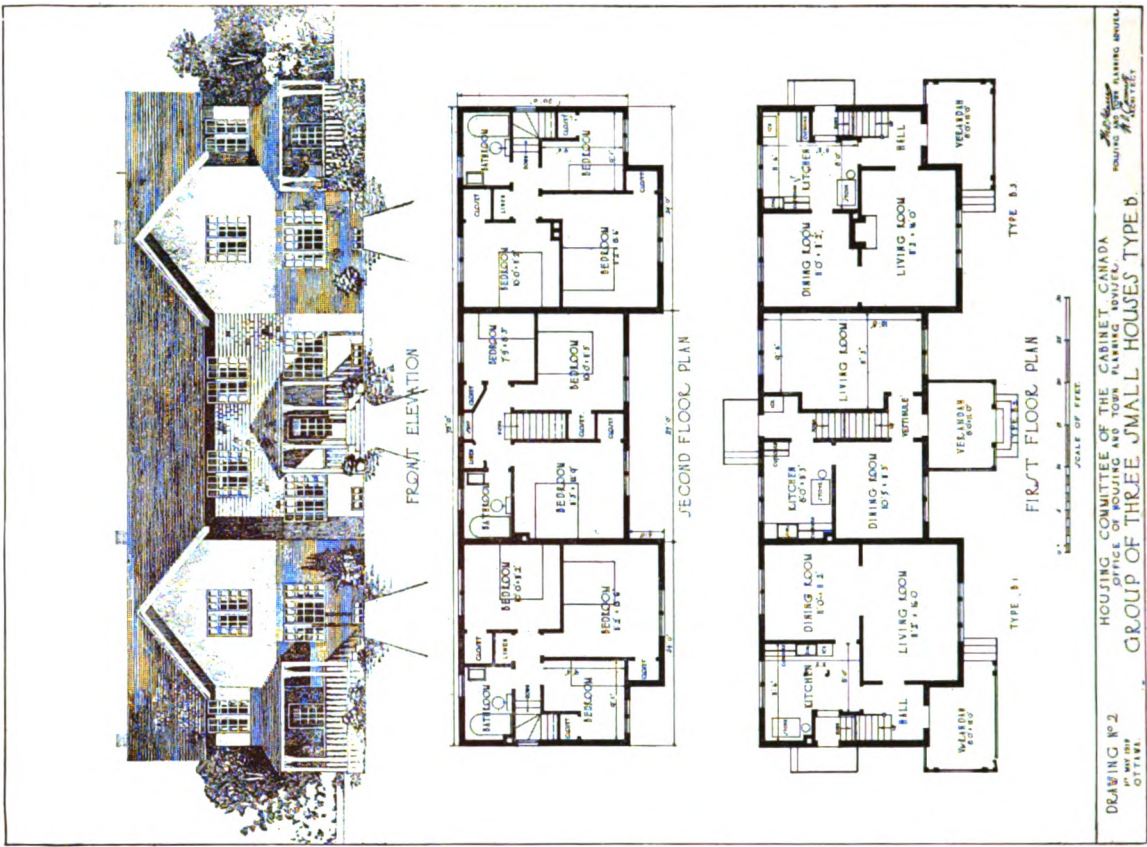
We are acquainted with H. Roland as Architect of the *Masonic Hall*, and are of opinion he is adequate to any business in his line.

W. TANNHILL,
M. NORRILL,
HENRY ROBERTSON.

January 2th, 1820.

SUPERFINE FLOUR.
JUST received and for sale.

A CURIOUS ADVERTISEMENT OF 1820



HOUSING SUGGESTIONS BY THE HOUSING COMMITTEE OF THE CABINET, CANADA

Post-War Committee—Some Canadian Opinions

APPPOINTMENT by the Council of the Province of Quebec Association of Architects, at a meeting on May 6 last, of a special committee to make a study of post-war conditions along the lines indicated in the announcement of the Post-War Committee of the American Institute of Architects, affords ample evidence that Canadian architects are alive to the feeling that possibly all is not as it should be within the profession, and that the time has arrived for a free and open discussion of possible improvements. This question will come up for discussion at the annual meeting of the Royal Architectural Institute of Canada in Toronto on October 3 and 4, when papers will be read on "Ways and Means of Improving the Status of the Profession: (a) Legally; (b) Educationally; (c) In the Community."

The following prominent architects comprise the special committee: J. R. Gardiner, Chairman, W. S. Maxwell, Joseph Venne, L. Lemieux, and E. Cormier.

All members of the Association have been urged to submit their opinions, and considerable comment has been received by the Committee, from which we quote the following extracts:

Remuneration

DAVID R. BROWN, Montreal: "The theory of charging for architects' services is unsound, but I do not think the present practice has had any marked influence on the extent to which our services are used. In my opinion, it would be far more satisfactory to both the client and the architect to agree upon a fixed sum for services. There will always be the feeling in the client's mind that the architect is not keen to keep the cost down if he is getting his commission on the total cost."

W. S. MAXWELL, Montreal: "Canadian architects frequently invite separate tenders from the various trades and, therefore, often receive as many as forty bids, the lowest tender usually being accepted. The architect's services, therefore, include not only the superintending of the work, but the coördination of the various trades, services which usually are rendered by the general contractor. The architect's compensation is, however, only the usual 5 per cent paid by the client, and on small contracts this is not sufficient to cover the cost of design and superintendence.

"I am of the opinion that compensation for our services should be based as follows: For the design, details, oversight by the architect and overhead, charges should be 5 per cent as at present, and for the following services,

such as accurate preliminary estimates, expert engineering services, receiving tenders from separate trades and superintendence by a clerk of works, as well as direct control of the payments, the architect should receive an additional fee of 5 per cent on the cost of the structure as estimated.

"A system of this kind would give the architect direct control of the operations and the assurance that his efforts would not result in a loss, but in a fair profit. The client could also rest assured that the building would cost no more than under existing systems, and the quality of the work would be greatly improved."

JOSEPH VENNE, Montreal: "The principle of remuneration by percentage seems to me, after all, the only practical one. . . . I am aware of the shortcomings of this mode and of the criticism made of it, but the inequalities resulting because two similar buildings do not require the same amount of care may be compared with the inequalities resulting in ordinary business from the fluctuation of prices. As to the supposed suspicions of the client that the percentage method is an incentive for increasing the cost of buildings, the supposition is upset by the fact that the architect must show that construction is conducted more economically with the architect's attention than without it."

Supervision

DAVID R. BROWN, Montreal: "In my opinion it would be more satisfactory if the architect would devote himself exclusively to the study of drawings and specifications, and personally give his attention to seeing that his design is properly interpreted, entrusting the supervision to an engineering firm."

JOSEPH VENNE, Montreal: "Supervision is of an executive, not a creative character. Planning, and, to a lesser degree, specifications and details, are of a creative character. The latter cannot be delegated, the former can be, under some restrictions. . . . There is no reason why the supervisor should necessarily be the partner of the architect; sometimes it may be well and good, especially in modern practice, but it would not be feasible for big work."

Responsibility

JOHN S. ARCHIBALD, Montreal: "There is no doubt that a large proportion of the public considers the services of an architect as a luxury to be employed only when absolutely necessary. The architect is greatly to blame for this idea, for he has laid too great importance on his ability as a designer and too little on his responsibility as administrator of another man's funds.

". . . The largest proportion of money expended on buildings is for investment purposes. The conservation and security of these investments must therefore be safeguarded, and almost the entire responsibility rests upon the shoulders of the architect."

Coöperation with Other Professions

W. S. MAXWELL, Montreal: "There is little doubt that a serious need exists, not only for a better understand-

ing between the architect and the public, but also of a stronger feeling of coöperation between the architect, the engineer, and the landscape designer.

"Have we not, in the past, considered mainly the design of the building as a unit instead of taking into account the design of the street as a whole? Our cities have many buildings that are cleverly designed and some that are in themselves beautiful, but how many of our streets can be termed a success? Our streets are mostly a medley of styles and materials, a hopeless tangle of mouldings, and a conglomeration of disconnected units which have no bearing one to another, and which cannot possibly make a satisfactory design in the mass.

"We must look, more and more, upon our buildings as forming part of a picture, and, therefore, to be grouped in a proper manner, or else spoil the effect. The garden cities and the world's fairs ought to have taught us this lesson, and we should, therefore, work in the future from the town planner's point of view. To do this the architect must be responsible for the laying out of the streets, as well as for the structure facing thereon. In order to obtain the necessary linking up of the various units into a comprehensive city plan, it will be necessary to have some guiding hand to control the scheme, and is it not here that the city architect, or a technical committee of an architect, a landscape designer, and an engineer could be of the greatest benefit to the community? It will doubtless require men of the highest training and great tact to control the work of the various architects so as to blend their units into an effective group, but if their work should be well and conscientiously done, the benefits to our cities, and, therefore, to the public, should be very great.

"Is not this the end for which we should strive if the architectural beauty of our cities is to be a credit to our profession and to appeal to educated public opinion? The architect must rise to the possibilities of his calling; otherwise the engineer and the contractor will gradually take his place. The architect should control the design of more buildings each year, and he should be trained so as to be worthy of his vocation."

Status of the Contractor

JOSEPH VENNE, Montreal: "If any one has to disappear in the future organization of the building industry, it must be the contractor. I think the 'cost-plus' system will kill him. Where is the control of economies with that system? . . . The 'cost-plus' will force the architect to take control of the whole business of building. But, then, he will have to be trained and prepared for the new duties, the increased responsibilities. He could then revert to his old-time qualification of the 'master of the guild'—*le maitre de l'oeuvre*. Under these new conditions he will conceive, and direct, and possess. The designer; the calculator, otherwise the engineer; the artificer, from the head foreman, inventor, or clever specialist to the last quarry; the supply of materials—all will be under his responsible control. . . . The contractor must be eliminated with the 'cost-plus'. If he cannot accept the responsibilities inherent to his calling, society has no need of him. All talk as to the suppression of moderate competition amongst men is mere utopia."

JOHN S. ARCHIBALD, Montreal: "I can foresee the day when the architect's duties will comprise not only designing and supervising, but the careful measuring of the work, the checking of costs, aye, and even the purchasing of materials, the contractor being merely the collector of the material—the constructor, in the way of supplying the labor—for which services he shall be paid by a commission and not by the present foolish and wasteful method of a lump sum."

The Creative Impulse in Industry

JOSEPH VENNE, Montreal: "The whole history of the Middle Ages, especially the medieval period, is still the best example of what ought to be. The people's dwellings, and petty village halls, and what-not were not built by trained architects or masters of the guild (*maitres de l'oeuvre*), but by mere workingmen of the trades. . . . If workers have today become wage earners instead of creators, the fault cannot be shifted to the architect. The complex new conditions of society have created such a situation, while the steady trend in mechanical invention has relegated the worker to the back of a machine bench, and he has thus become a mere accessory to the machine. Now he is not willing to acquire the knowledge of any whole trade; he stands frightened at the task; he is conscious that the machine has conquered his efforts and even his soul, unless he can devise a new machine to increase his earning powers. He is no more an artist and he does not care to go back to the condition of his forefathers. . . . I think the task of interesting all workingmen in their work, I would say their production, is well-nigh hopeless. . . . The function of the architect in all this can only be one of selection, and such selection should be direct rather than through organized concerns.

"The architect may have been prejudiced against 'new industrial methods;' especially against the introduction of machinery in the building trades. I think, however, that he should consider more favorably that newcomer which has done so much for the betterment of human comfort. The present duty is to render machinery still more effective and to utilize and develop its possibilities with intelligent and moral means. Hand work must always be respected and praised and properly paid for, but the mechanical means of facilitating a man's work should be encouraged rather than rebuked. On the other hand, mechanical industry must not crush the individual workman. He should share in the general benefit of mankind through less exacting labor, more equitable pay, and better living generally."

Public Appreciation of Architecture

JOHN S. ARCHIBALD, Montreal: "Our future teaching must be more practical, dealing more with everyday problems, not only of design but also of economics. Thus, by ultimate far-reaching results we may compel the public to recognize the advantages and necessity of the architect's service and, in the end, enable the profession, by means of improved housing and working conditions, to evolve a better environment for our communities, thereby engendering a love for the beautiful and a higher moral standard for the public generally."

POST-WAR COMMITTEE

Education

JOHN S. ARCHIBALD, Montreal: "Architectural building economics must be made an important part of the curricula of our architectural schools, if our profession is to retain control of building design and operation."

The Architect as a Citizen

JOHN S. ARCHIBALD, Montreal: "How much use we could be in our respective communities and in the wider field of provincial and national politics! School boards, spending hundreds of thousands of dollars yearly on buildings for the education of our children, and whose policy and funds are administered, as a rule, by the ministerial profession; civic improvement leagues, with no architectural representative on the board; public works departments, with a lawyer or a doctor at the helm—but why continue?"

"The architect himself has been largely to blame—he insists on keeping himself in the background, and an appreciative public takes good care to accede to his wishes. Come out, Mr. Architect, and take your share of life's

responsibilities, even if there is no 'job' tagged on to it. Banish the indifference of the past, and help, by services rendered, to compel recognition from a public which is ever ready to recognize unselfish action."

Architectural Organizations

JOSEPH VENNE, Montreal: "With the present democratic craze, some architects seem generous to the poor public when they advocate a profession open to all. Look here now, carefully! To become a real architect of some use to society, one has to pass through long and tedious studies, to suffer extended sacrifices of all sorts, such as are not asked from other citizens. And how can the one who has qualified, who has rendered himself honestly useful to the community, be recognized from the bogus subjects who are ever ready to benefit by the sweat of others? I consider that societies of architects are necessary, but they should be selective of the best, and maintain their membership on a high standing of effectiveness. I don't care very much for the professional who stands aloof from his co-professionals; he is a very poor-spirited citizen."

Congress and Architecture

Bill to Continue the Bureau of Housing

Three measures of exceeding importance are before the present Congress, in connection with the building industry. First, the bill to continue the Bureau of Housing in the Department of Labor, at least until it can be determined whether or no it can profitably be maintained as a desirable governmental activity in the compilation and distribution of information in all that pertains to the great problem of housing. Manifestly, such a bill is reasonable and in the interest of conserving the benefits that have accrued to the nation through the work of this bureau.

Bill to Abolish the Bureau of Housing

Second, and in opposition to this bill, is the one which would oblige the administration to close the doors of the Housing Bureau and compel the immediate sale, at no matter what sacrifices, of the housing properties now owned and controlled by the Government through the United States Housing Corporation. Manifestly such a bill is highly undesirable, for it is against public policy and in the interest of those who would, if possible, coin a profit out of the country's great war emergency expenditure. The Government should retain control of these properties until their values can be determined.

We cannot answer for the indictment of extravagance as contained in the report on the bill submitted by Mr. Langley, of the Committee on Public Buildings and Grounds, but whatever the merits of this question may be, there should be no sacrifice of the Government's interests. Mr. Langley confuses the issue, but his report should be made public and his statements be considered. The report is as follows:

Congressman Langley's Indictment of the Bureau of Housing

"The legislation which this bill seeks to repeal was reported out by this committee and passed by Congress purely and simply as an emergency measure demanded by the exigencies of war. It was absolutely necessary at that time that the Government should not only raise great armies and fleets, but it was just as imperatively necessary that mammoth stores of arms and munitions should be provided; that materials for the construction of ships, railroads, bridges, etc., should be manufactured; that immense quantities of clothing should be made; and that great stores of food should be collected; and to do these and many other things equally as important, it not only became the duty of the Government to employ millions of workers, but as private capital could not or would not do so, it became the duty of the Government to embark in the business of building and furnishing houses near these great industrial plants and manufacturing establishments in which these very necessary workers and their families might live. It was also imperatively necessary that the legislation should be speedily enacted. It was never intended by the Committee on Public Buildings and Grounds, nor so far as this committee is aware, by any member of either branch of the Congress, that the said legislation should be other than temporary. Nothing could have justified Congress in entering upon such an undertaking except the existence of the world-wide war, and then only when it became evident that private capital had failed to meet the emergency. In the framing and enacting of the legislation it was the intention and expectation of this committee that as all of the construction to be undertaken by the Government was to be by contract, a very small organization to let and supervise the proper execution of

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contracts would be all that would be needed, but immediately the legislation became effective an organization was very soon created sufficient, in numbers at least, to have conducted the affairs of one of the great departments of the Government. College professors and alleged experts in various lines were called in and placed on the pay-roll at large salaries and designated as "town planners," "town managers," etc., *ad nauseam* and *ad absurdum*. This committee is sure that no private building concern in the world could have lasted any length of time with so top-heavy an organization as was created for the management of this Government outfit with the attendant colossal overhead charges.

"Some time after the signing of the armistice, the Senate passed a joint resolution which in substance provided for the immediate cessation of all work under the housing act and for the salvage of all property which had been acquired. When this Senate joint resolution came to the House and was referred to this committee, very thorough investigation was made and the committee concluded that it would be for the best interests of the Government to complete twenty-two of the existing projects and sell them in their completed state, believing that the Government would realize more in the way of salvage by pursuing this course. The United States Bureau of Housing and Transportation, which was the agency created under the housing act to carry out its purposes, knowing from the action of the Senate and the action of this committee that it was the desire of Congress that said bureau should cease to function at the very earliest possible day; that their force should immediately be reduced to the minimum, and that no new work should be engaged in, took no steps to make any substantial reduction of force, engaged in new construction work, but, on the contrary, increased salaries, and did other things indicating that these bureau officials considered themselves to be a permanent governmental institution.

"On the 1st day of April, 1919, nearly five months after the signing of the armistice, this bureau had over 800 persons on its pay-roll, about one-half of whom were at the Washington office and the remaining one-half were scattered over the country. On the 15th day of June, 1919, more than seven months after the armistice was signed, this bureau still had 341 persons on its pay-roll, 228 of whom were at the Washington office and 103 in the field. With this immense force in the Washington office, the bureau has a large part of one of the most magnificent buildings in Washington rented for its use at more than \$20,000 per annum. This bureau has a committee of its own officials whose duty it is to regulate salaries, but it appears that the chief "regulation" in which they have engaged has been the raising of salaries. Since the armistice many salaries have been raised, and here are some of them:

Name	From—	To—
Carl V. Badger	\$3,000	\$3,500
H. D. Belcher	3,500	4,000
C. Birdseye	3,000	3,600
C. H. Brewster	4,200	4,800
F. A. Brown	1,800	2,400
E. R. Burn	1,920	2,500
C. P. Chase	3,600	5,000
S. Chevalier	3,600	6,000
Wm. Dall	3,500	4,000
W. W. Dibrell	3,500	4,000
N. A. Dyer	4,500	5,000
W. Howe	3,000	5,000

Name	From—	To—
E. E. Jacobsen	3,500	4,500
Miss H. James	3,600	4,500
W. C. Lewis	4,500	6,000
I. E. Macomber	4,000	6,000
L. Moses	4,000	5,000
C. R. Parker	3,900	4,800
E. V. Parker	2,500	3,600
L. K. Sherman	4,200	7,000
B. J. Treacy	3,000	5,000
Robert Watson	4,200	5,000
H. M. Webster	5,000	9,996
L. W. White	3,000	4,500

"Many other instances could be cited of the profligate expenditure of money by this bureau, but these are sufficient to show the reckless disregard for the interests of the Government with which these salaries have been raised since the cessation of hostilities. Your committee, with a knowledge of facts, is firmly convinced that this bureau should cease to function, and the earlier the better for the interests of the Government. In the bill reported herewith we have tried to provide for the sale of all the property which has been acquired, and in order to dispose of it with as little expense as possible we have provided for the same to be turned over to the Treasury Department, as that department has an organization which can easily wind up the affairs of this bureau without a dollar of additional expense, thus netting to the Government the entire proceeds of all sales.

"We have also provided that all buildings in the District of Columbia constructed under said housing act shall be turned over to the Public Building Commission. This, of course, would include all the dormitories on the Plaza, and no doubt the Public Building Commission would allow them to be run as hotels for Government workers so long as they were actually needed and could be conducted without cost to the Government. Whenever they are not actually needed, or whenever they are not self-sustaining, they should be used for some other purpose, and if no useful purpose can be found, they should then be removed."

Project to Create a Department of Public Works

Third, there is the project for the establishment of a Department of Public Works, along the lines suggested at the recent conference in Chicago, held under the auspices of the Engineering Council and participated in by the Institute. Such a project has long been urged by the Institute, and it is pertinent to point out that Mr. Newell, in outlining the advantages of such a department to the conference, laid emphasis on the value it might have in bringing about the adoption of the budget system for our Government. Certainly such a change must precede any logical usefulness of a Department of Public Works, for until our method of appropriating money for public buildings and works is revised, no great progress could be made in placing such governmental expenditures upon a sound and legitimate basis.

It is evident that the profession has a laborious task ahead in bringing about a reversal of policy on public building appropriations and design, but it is equally true that the national budget system is making strides forward, and that the country as a whole may be expected more closely to scrutinize national expenditures in the future, when the whole burden of the war begins to be felt more and more keenly. Therein perhaps lies a greater hope than in any other form of agitation.

The Proposed Governmental Department of Public Works

At the conference in Chicago, called by the Engineering Council to further the establishment of a national Department of Public Works, the architectural profession was represented, at the invitation of the Engineering Council. Throughout the proceedings it was clearly the desire of the engineering profession in no way to monopolize the establishment of a Department of Public Works to the detriment of the architectural profession. Due recognition of the work which the architectural profession would have to perform was made, and the importance of its contribution toward the success of such a department was never minimized.

The Engineering Council has performed an enormous amount of preliminary investigation. Realizing, as it did, the necessity for an intelligent constructive policy covering the consolidation of all the bureaus of various governmental departments which are concerned with building and engineering activities, it proceeded to establish the basis of such a policy by having made a thorough survey of all the existing bureaus and their inter-relationships. In making this survey it was compelled to investigate and codify the various enabling Acts of Congress which had brought into existence the different bureaus at different dates. It was necessary to know the legal status and powers of each bureau of the Government before an intelligent plan could be made for consolidating them in one department. This laborious work was done by an attorney at an expense of more than \$10,000 to the Engineering Council; the information gained formed the basis of its proposal for establishing a National Department of Public Works.

At an early stage in the formulation of the plans, the question arose as to whether it would be advisable to request the creation of an additional cabinet office or whether it would be possible so to rearrange the duties of the existing cabinet officers as to consolidate the new department under one of the existing secretaries. The line of least resistance seemed to be the latter course. It was decided, therefore, that it would be wiser to transfer to the Department of the Interior the various building activities now scattered throughout the departments of the Government, and to transfer certain activities from the Department of the Interior, as not concerned with engineering and building activities, to other departments with which they might properly be united.

In the organization of such a department, the engineering conference came to the conclusion that there should be four main bureaus, each headed by a qualified expert with the rank of Under-Secretary: 1. Engineering Bureau; 2. Architectural Bureau; 3. Scientific Bureau (in which would be included such departments as the Bureau of Standards and the Coast and Geodetic Surveys); 4. Legal Department.

It was also decided that these bureaus should be em-

powered by Congress to perform engineering and architectural services for the other departments of the Government, so that, in reality, the Department of Public Works would become the expert advisor of the entire Government in all engineering and architectural matters. Its scope would embrace reclamation projects, irrigation, roads, landscaping, and scenic features connected therewith, in addition to matters which are usually thought of as strictly engineering or architectural. It was also thought wise to propose that bureaus with their entire personnel should be transferred without change to the new department, since, in many of the Bureaus, there were well-established organizations in which there had been developed efficiency and an esprit de corps which it would be well to conserve. Such a transference in whole would also obviate antagonism which might develop in case it was proposed to disorganize the bureaus before transferring them to a new department.

The establishment of a Department of Public Works concerns the architectural profession as vitally as it does the engineering profession, although the magnitude of work in engineering will far exceed the work that is strictly architectural. It was, therefore, proposed, with justice, I think, that the first Under-Secretary should be an engineer. It is to be hoped that the architectural profession will realize that a great public service would be performed in the establishment of this new department, and that it is incumbent upon the architectural profession to do its part of the necessary preliminary work. It is to be regretted, therefore, that at the last Convention the work that the Engineering Council had done and its proposal for the establishment of a Department of Public Works was approved with the proviso that no financial expense should be incurred by the Institute. If the work is of public interest and vitally concerns the profession, as I believe it does, then the Institute should bear its share of the expense of promoting such a department. For the architectural profession to say to the engineering profession that "we approve what you are doing and we approve your spending your own money, but we will not spend any of our own," is an approval so lacking in conviction that it amounts to no approval at all. The architectural profession has an opportunity to cooperate with the engineering profession. It should so cooperate and pay its share of the expenses, for the real test of a man's sincerity and conviction in a public cause is whether he is willing to pay to promote the cause. If the architectural profession is willing to allow the engineering profession to bear the expense of this movement, it must not be surprised if in the end, when such a department is an actuality, it finds that the architectural profession occupies the same kind of importance in such a department as its lack of interest, as evidenced by failure to contribute, would warrant a disinterested observer to expect.

WALTER D. BLAIR.

The Proposed Government Bureau of Fine Arts

In the latter part of July a meeting was held at the Arts Club, Washington, for discussing the subject of a Bureau of Fine Arts. While the topic is by no means a new one to the architectural profession, the remarks in this particular instance seem to indicate that the proposal has lost none of its power to attract attention and to arouse interest. If the Bureau of Public Works, referred to elsewhere in this issue, should become a reality, then the subject of art in building will, of necessity, take on added importance, for it is unthinkable that a Bureau of Public Works would be left in the hands only of constructors.

Mr. Edward W. Donn, a director of the Institute, presented the case on behalf of the Institute and spoke as follows:

"The idea of a Bureau of Fine Arts is no new thing. It has been dreamed about by various people, both lay and professional, for years. From my point of view, it seems a perfectly obvious thing and arguments for it not at all necessary, but strange to say there are many people who look at the matter differently. Yet none of us should rest content until every man, woman, and child in the country is made to believe absolutely that art is an inalienable possession of all, poor as well as rich, and of all things the most democratic. One of the great duties of the Bureau of Fine Arts will be to convince Americans of this fact where such conviction is necessary.

"Many public men have had visions of the good that art would perform for this nation if it could be put on the same plane as it is in France, where it has ennobled the people and at the same time has been of great pecuniary advantage to them. I am sure that we as a nation have possibilities as great as the French or any others if proper encouragement is given. How to accomplish this end is the great problem.

"The late Senator Newlands never tired of talking about its possibilities, but his ideas for its accomplishment were rather vague, as were those of his supporters, so nothing much was ever accomplished. In fact, so far as I know, the scheme of a Bureau of Fine Arts never was formulated practically so that the man in the street might pick it up, look it over carefully, and approve it, and even now I am not able to put my hand on any plan which has been suggested, and which has in it the essentially practical features to make it a definite, workable thing, able to stand alone, and win the approval of Congress.

"There is now before Congress a proposition to reorganize the Department of the Interior into a Department of Public Works, which is logical, as the present Interior Department is largely concerned with public works, and at present has under it many bureaus which ought to be placed under other executive departments. Those who know the psychology of the congressional mind feel that the practical features of the Department of Public Works idea will appeal where the more or less idealistic features of the other might have little or no success at this time. However, although the Bureau of Fine Arts is obscured in this larger scheme, I feel sure it is not too great a stretch of the imagination to picture, later on, the blossoming of

the Bureau of Public Works, with an important offshoot called the Bureau of Fine Arts. Will it not, therefore, be to the interest of those identified with the fine arts to get together behind this movement and do everything possible to make it a reality?

"I don't believe the American people are yet ready, or, at least, have not yet been educated to feel the necessity for a Bureau or Department of Fine Arts, standing free and not forming a part of some other executive department. As a matter of fact, the Bureau of Education might logically become the parent of this child.

"If the artists, painters, sculptors, archeologists, and musicians have done anything toward the formation of such a bureau, I have not been informed of it. Perhaps they have. The architects have talked of it, but that is about all.

"I confess I cannot think of any practical suggestions differing from those already mentioned, and I believe the architects have done the right thing in joining their forces with those of the various engineering bodies throughout the country, in the hope that, beginning in this way, the field will broaden out later on and permit the development of the Bureau of Fine Arts idea."

Congressman Pell, of New York, spoke briefly, saying: "The thing we are here for is to develop an artistic feeling in the country, a respect for artists and a demand and appreciation of beauty. That is the one thing that must be considered. I might suggest some practical methods of getting at it. We are daily told that we should have dozens of departments—all to be established immediately. Every one of the departments now in the Cabinet, except the original three or four, are outgrowths from the departments already existing. In the beginning the Navy was under the War Department. All the departments have arisen from bureaus, so we can be quite sure that if there is to be a Department of Fine Arts it will have to start as a bureau, then show its importance and value to the community, and finally become a full-fledged department. It will be by no means unadvantageous to start off as a bureau, because the bureau chief is necessarily selected by his superior cabinet officer, and when the bureau has been raised to a Cabinet position, people will demand ability in the man occupying that place. . . .

"An argument that will be made against such a bureau is that its sponsors are in the large minority. The only thing necessary to show Congress is that we are not a minority. I shall, when it comes up in the House, be perfectly certain to support a bill which will establish a definite bureau of fine arts."

A letter from Mr. John C. Freund, President of the Musical Alliance of the United States was read, in which Mr. Freund said: "The great need of our having a Ministry of Fine Arts in our national Government is not so much that we should follow the example of the older nations of Europe, nor is it so much the value of what would flow from the establishment of such a Ministry in the way of a National Conservatory of Music, (which, by the bye, I favor as against such an institution supported by private muni-

THE PROPOSED GOVERNMENT BUREAU OF FINE ARTS

ficence), nor would it mean so much as perhaps help toward the establishment of national opera. To me the overwhelming argument in its favor lies in that it would make us, as a nation, recognize the value of our national, civic, and home life, of those great spiritual influences which are represented by music, drama, literature, and the arts in general. . . .

"Now the time has come for us to show that we are

not merely hunters for the dollar, that we do take an interest in those forces which make for civilization, for progress, and without which man would be not much above the animals that consume their existence in a hunt for food and the digestion thereof."

Letters were also read from Mr. Joseph Pennell and Miss Violet Oakley, subscribing to the proposed bureau.

The Proposed Franco-American Architectural Affiliation

The French Technical Mission of the Office du Batiment, sent to America by the Minister of the Devastated Regions, has returned to France after seven weeks of intensive study of American architectural methods and materials. As the Mission spent the greater part of its visit in and around New York City, the local members of the Institute Committee were thrown with them constantly and learned to appreciate them as an open-minded, energetic, and intelligently inquiring group of men. Through the courtesy of the Committee on Publications, Mr. Whitaker devoted much time to the Mission, and accompanied its members on their trip to Chicago, Cleveland, Pittsburgh, Washington, Philadelphia, and other places, and his guidance was most appreciated.

The members of the Mission were especially interested in American brick and structural terra cotta and the machinery employed in their production, in plumbing fixtures, especially the cheaper grades of enameled iron, in concrete mixers and block-making machinery, as the lack of wood in France makes poured concrete exceedingly expensive. Various housing developments, and steel and reinforced concrete buildings in process of erection were visited, for everything connected with our building methods proved of interest. Our colleagues of the engineering societies were of great assistance in helping to pick out and show to the Mission material of especial interest, and the collaboration between the two professions was most hearty and valuable.

As the visit drew to a close, it seemed more and more regrettable to all that the liaison already established should be only temporary, and the possibility of a permanent connection between the professions in France and America was discussed at length. The Office du Batiment, of which the Mission was the representative, is an organization founded by the two leading societies of architects in France and the National Federation of Building Contractors, its primary object being to aid in the rapid and economical reconstruction of the devastated regions of France. It has already established a sample exhibit on the lines of the Architects' Samples Corporation, of New York City, and the Builders' Exchanges of some of our cities. Arrangements are already in the making whereby there will be an interchange of samples and information as to available materials between this Paris sample room and the corporation in New York City. It is also planned to develop the Office du Batiment as an information bureau, and the French Mission urges that the Institute on this side of the water continue the work already commenced by

organizing a permanent Joint Committee which would remain in close touch with the committee in Paris and serve as a center of distribution, through the medium of the professional magazines, of information of interest to the profession and the building trades, and send, in turn, to the French committee such data as may be of interest to them. The artistic and practical advantages of such an interchange are obvious, and it is the hope of the Committee that this plan may be carried out.

In the reply of the French architectural societies to the offer of service by the American Institute of Architects it was stated that the profession might be of financial assistance in helping to place the bonds of the Coöperative of the Société des Architectes Diplômés. This Coöperative was formed because, in view of the fact that practically all French architects have been without clients for five years, and that many of the younger men on returning from the army are without offices or material and without the means to hire draughtsmen, and in view of the necessity of rapidly turning out working drawings for a large number of buildings, it was agreed that the best solution of the problem lay in a coöperative society which could furnish centralized draughting-rooms, draughting force and materials, able to cope with the work of many architects, and to turn out promptly the more or less standardized details justified by the character of the work. It has been agreed that the fees for professional services, which are to be paid by the Government, shall be turned over to the society, which will, after deducting draughting, rent, material and overhead, pay the balance to the architects.

Monsieur Greber, the chairman of the Mission, reports that about 400,000 francs of stock in the Coöperative have been taken by architects, members of the society, and states that, when the work is in full swing, it will be necessary to greatly increase this capital, probably by a bond issue to be protected by French Government guarantees, and he has inquired whether the Institute would be able to aid in placing these bonds.

In view of the offer of service by the Institute, this appears a most reasonable request, and it has been agreed that on his return to France Monsieur Greber will ask the president of the Coöperative, who is also president of the Diplômé Society, to send us the necessary information, so that the Institute may be prepared to handle its share of this work effectively and promptly. The question of the method of handling this miniature Victory Loan Drive will be submitted to the directors of the Institute at their next meeting.

Referring once again to the personnel of the French Mission and its indefatigable search for information, it should be mentioned that of the six members, the eldest, Monsieur Nugue, is only fifty-one years of age, while the youngest, Monsieur Perreaud, twenty-eight, was the butt of his comrades, as he had just finished seven years in the army, his three years of compulsory service having ended just as war was declared. Needless to say, all the members of the Mission had been in service, either in the army or as mobilized and in charge of their factories.

The Committee entertained our guests on various occasions and the courtesy was returned by them. These dinners and luncheons were rather the occasion for practical

discussion than for speeches, although His Excellency, the French High Commissioner, who presided at the final dinner given by the Mission, took occasion to pay a very beautiful tribute to the architects of America, whom he characterized as the first group in America to realize the justice of the cause of France and the Allies, and who had been the ablest in urging their propaganda based on conviction.

The later entertainments were marked by the restrained gaiety characteristic of the period of aridity into which we have entered.

CHARLES BUTLER

Chairman, Special Committee on Franco-American Relations.

The World's Building Problem

ALL GREAT WARS have been followed by a necessitous demand for increasing the productive powers of men. The end of the greatest war the world has known finds the need for production greater than ever before, for today a great portion of the world lies prostrate under the losses suffered by destruction, by the five years' cessation of useful activities, and by the death and disablement of a vast army of workers. The needs for shelter in the form of every conceivable kind of building are almost beyond calculation. In common with the requirements for food-production, building activities comprise the two great forms of human effort upon which Europe and America are now largely dependent. Many factors enter into and complicate the situation, chief among which are loans or credits and the problem of rising costs. The vicious circle in which commerce and industry have become involved presents questions of exceeding gravity, into which it is not the purpose here to enter, but there are certain aspects of the building problem to which it may not be amiss to ask attention.

In England, at the present moment, a considerable group of intelligent men is struggling valiantly to point out to the nation that unless some comprehensive plan is developed for the guidance of the vast housing schemes which must in some manner be undertaken, the result, if the work is allowed to be carried out without guidance or control, will be a repetition of the urban disasters of the past. At the recent conference of the Municipal and County Engineers, at Birmingham, England, Mr. James Thomson, Municipal Engineer for the city of Dundee, Scotland, speaking on the question of housing in connection with town-planning, presented a programme which is admirable in its lucidity, and which is as follows:

Absolute change from the present method of town growth as one mass without intervening spaces.

Acquisition at every opportunity of undeveloped land at as near its agricultural value as possible.

Design of the framework or skeleton of all existing and proposed main roads, excluding subsidiary roads, within a well-considered probable extended boundary.

Limitation in the size of all new combined industrial and housing areas to a maximum to be fixed by the local authority.

Separation of all new combined industrial and housing areas from each other, and from existing areas by open spaces and wooded belts.

Complete revisal of formal methods of laying out land for working-class dwellings.

Drastic change in the design, type, size, equipment, and environment of houses for the working classes.

Reduction of housing density.

Sufficiency in all housing schemes for gardens and allotments and facilities for culture.

Certainty that in all new work areas, housing shall be carried out on town-planning lines.

Allocation to each new housing and industrial area of sites for buildings necessary for culture and recreation facilities.

Facilities in every new housing unit for outdoor recreation for adults and children.

Increase in the number of small parks corresponding with the increase in number of housing areas.

Transit facilities to outlying districts and to all new industrial and housing areas.

Abolition, step by step, of all slum areas.

Improvement by degrees of central area and of all congested districts.

Gradual widening of central main streets and the early widening of portions of arterial roads in the outskirts.

Preparation of town-planning schemes for all areas proposed or brought within boundaries in conjunction with town-planning of areas within the existing town.

Extension of railways and provision of railway sidings into land to be used for industrial purposes; and

Appropriation of sites for landing-grounds in anticipation of the introduction of aerial transport in conjunction with the fixing of housing and industrial areas.

I know of no programme for guiding the physical growth of communities, large and small, in which the errors of the past are more carefully, albeit indirectly, summed up, and the remedies for the future suggested. Every paragraph of this programme may be pondered to advantage. Differing degrees of importance will attach themselves to different items, perhaps, but certainly we may assign major positions to the two paragraphs at the beginning.

THE WORLD'S BUILDING PROBLEM

First: "Absolute change from the present method of town growth as one mass without intervening spaces." This is hardly to be argued, since all of the effort of the last few decades toward the amelioration of urban congestions has been to disentangle the mass, provide open spaces and correct the mistakes of uncontrolled development.

Second: "Acquisition at every possible opportunity of undeveloped land at as near its agricultural value as possible." This is a serious and radical suggestion for the United States where we cling tenaciously to the theory of free and unhampered individual initiative and the right to make money out of land without care for the community disasters created in the process. It is not quite so radical a suggestion for England, where it was adopted as a war policy in the acquisition of land, but where the old tradition has, through centuries of abuse, created the menacing housing situation with which England is faced, and with which Parliament seems now determined not to deal fairly, because in so doing it would have to upset the land tradition.

Australia and New Zealand understand the principle very well. They have practised it with success. Germany had adopted it as a basic premise in attempting the improvement of her urban centers, before the war. France has begun its application in and about Paris, where the Department of the Seine, authorized to expend ten million francs in garden cities, used the entire appropriation to buy land, since it recognized plainly that if it used the money for buying land and building one garden city, the price of other land would rise to such a height that it could not build another garden city at anywhere near the same price. Thus, slowly and with infinite pains, it is coming to be seen that the principle advocated by Mr. Thomson, although he is by no means the first, is one of the only two possible ways by which the housing question may be attacked successfully, and equally one of the only two ways by which the towns and cities of the future may fulfil all of their functions and remain solvent.

To architects I would beg leave to state one firm conviction that lies deep within my love of the art they practise, and which is this: When the use-value of land flows into the pockets of the community that creates it, and not into

the hands of those who own the land, and who are thereby permitted to exact an ever-increasing tax for the right to build on that land, the demand for the services of architects will far exceed the most sanguine expectations of those who now seek ways and means of educating the public to an appreciation of architecture. You cannot put a rigid economic chain around building enterprises and expect people to break it just for the satisfaction of an esthetic need. It cannot be done, except on a very small scale under specially favorable circumstances.

Of course, I believe that this underlying question affects every aspect of our industrial life; that it plays by far the largest part in maintaining the vicious circle of rising wages and rising living costs, because the tax forever outstrips the ability of workers to pay it, but it is to the question of architecture that I address myself, and in connection with which I record my belief that nothing has contributed so much to the impoverishment of architecture, esthetically and constructively, as the land-gambling engendered by our system, the building-gambling that must follow as a natural corollary, the whole accompanying disasters everywhere evident in the growth of our communities, and the mountainous obstacles in land prices which stagger us when we seek ways and means of correcting these things.

It is because of the perception of these fundamentals, no doubt, that Mr. Thomson placed those two paragraphs at the head of his programme. First, a complete change in method; second, a direct and radical economic principle as a guide. Afterward, the details, premised upon that principle, yet sufficiently elastic to provide for constant change, new needs, and a larger human development. He proposes to avoid the danger common in all town-planning schemes and which lies in their inelasticity, in the tendency toward putting people and things in certain places, on the supposition that they will forever stay there—which they will not.

But, as Mr. Mumford points out, in his article in this number of the Journal on the development of our own cities, there are other factors, besides the purely physical, which go into the making of a really great city. The wish must come first in the hearts of men. After that, all things are possible. CHARLES HARRIS WHITAKER.

British Housing Problems

The housing crisis in England is still acute. Parliamentary action has been slow, while land prices have soared. It is now being seen that even a national subsidy in rents—a principle already admitted by Parliament—will not solve the problem. Commenting on this point, the *Westminster Gazette* remarks as follows:

"Dr. Addison (President of the Local Government Board) rightly lays down the principle that, in building the new houses, rents shall be fixed so as to yield a return on a large proportion of the cost, and that wages shall be paid which enable the workers to pay such rents. Any other practice would make the low rent a subsidy in aid

of wages, and would place wages on a lower level than they should be. With present building costs, however, rents for the new houses will be high, which means inevitably that rents for existing properties will rise as soon as the Government restrictions are removed. We get, in fact, into another vicious circle in which high wages will mean an enhanced building cost and an increased rent, bringing in its turn a demand for a higher wage, with nobody in the end a penny the better off. How to break that circle is a problem of statesmanship. It will certainly not be done by the community subsidising rents to a large amount."

Housing for London

Among the municipalities that have shown themselves sluggardly in the housing movement, London is conspicuous. Although the need for houses is as urgent in the metropolitan area as it is in most other large towns, the London County Council, which ought to set an example in such matters, has by no means risen to the occasion. It is simply not doing its duty in the matter of housing. So far, it has produced plans for only 211 houses; and these, although they were submitted to the Local Government Board at the end of last May, and were promptly passed, are not yet begun. The excuse put forward by the London County Council reveals its old fatal tenderness for the pocket of the ratepayer. It is simply jibbing at the expense, and in that way is setting up the deadly infectious disease of financial cowardice, besides running the risk of other epidemics that may come more definitely within the purview of the Ministry of Health.—*The Architects' Journal*.

NOTE.—In connection with the above it is interesting to know that, in the discussion of the Housing Bill in the House of Lords, press reports state that Lord Downham moved an amendment providing that where a county council fails to fulfil their obligations under a scheme, the Local Government Board shall only proceed with the scheme itself upon an Order in Council approved by Parliament authorising it so to do. He moved the amendment on behalf of the London County Council. Lord Birkenhead said the Government could not accept the amendment because it would lead to intolerable delay and destroy and defeat the main objects of the bill. No other county council in the kingdom asked for the amendment, and what was good enough for them ought to be good enough for the London County Council.

The Subdivision of Great Estates in England

Decimation of great estates goes on with but little intermission. Notable among several recent instances is that of the Thixendale portion of the Sledmere estates, in Yorkshire. Sledmere seemed inalienably associated with the Sykes family, of whom the most prominent was, of course, the fourth baronet, Sir Tatton Sykes, who did much to improve it. Moreover, he caused schools to be built in many of the villages, and he "restored old churches and built new ones." One of them is in Thixendale, and whether it can be sold with the rest of the village without committing sacrilege, or simony, or some other deadly sin, may be a question for casuists, but more probably depends on whether the tenure is secular or diocesan. One shudders at the mere possibility of its coming under the hammer of the auctioneer and being knocked down to the highest bidder, though churches in the war area have been worse profaned. At the worst, the church, it may be supposed, will not be perverted from its present use, and will remain to proclaim to future ages the generosity of its pious founder, hearty old Sir Tatton, who was almost the last of the old English squires—of the robustious red-checked men who contrived to combine, not altogether inharmoniously, a passion for the race-course with a due regard for religion, especially if the parson rode straight to hounds.

One can hardly suppress a sigh on seeing the good times of coaching and hunting melt away like a dissolving view, with "Yoicks!" and "Tally-ho!" dwindling echoes, Sir Roger de Coverley, Sir Tatton Sykes with him, mere memories of a vanished—and, when one comes to think of it—decidedly curious phase of civilisation.—*The Architects' Journal*.

Great disappointment has been caused at Nottingham by the refusal of Lord Middleton to treat for the sale of his Wollaton estate, which would have made possible the carrying out of a great housing scheme, of which the city stands badly in need, owing to the demolition of unsuitable property.

It was urged at a meeting of the City Council today that public necessities demanded that Parliamentary authority should be sought to compel his lordship to sell.—*Westminster Gazette*.

A London Garden City

Dr. Addison, the Minister of Health, turned the first sod on the site of Ealing's new housing scheme on Friday, and congratulated the borough in being the first of the London district, and among the first in the whole country, to start actual work. He was glad they had let the contract for the layout, and that the work was to begin at once, for he thought prompt work on a housing scheme was the most efficient and satisfactory way of meeting one of the greatest social needs of our time.

The scheme is designed on model village lines, and there are one or two features which make it of special interest to those interested in housing and town-planning. It is proposed to erect 216 houses and 42 flats around a spacious village green. Every house will have its garden. A separate bathroom will be provided for each house, and in every case the living-rooms are so arranged that they get direct sunlight. The site is to be known as Ealing Village Park.—*The Municipal Journal*.

News Notes

An Interesting Architectural Exhibit

The Metropolitan Museum of Art, of New York City, announces that the porch of the Bristol House, New Haven, Conn., will be on exhibition in the Recent Accessions Room during the month of August. The porch was presented to the Museum by Mr. Cass Gilbert, Past-President of the Institute. It was built by David Hoadley, who was born in Waterbury in 1774, and died there in 1839. The house dates from 1800 to 1803. The porch has a pointed roof, is ample in dimension, and its two columns, each with twenty-four flutes, are topped by capitals delicately carved. It is built, curiously enough, of three woods—ash for the columns, black walnut for the door-frame, and pine for the entablature.

The New School of Arts at the University of Virginia

The first proposal for a professional school of architecture in an American institution of learning, made by Thomas Jefferson in 1814, has just come to fruition through

the endowment of a school of fine arts, including art, architecture and music, at the University of Virginia which Jefferson founded. In his outline for a scheme of education, the first to be listed among the professional schools was the department of fine arts, embracing "civil architecture, gardening, painting, sculpture, and the theory of music." In the buildings of the University group, Jefferson gave a model of the Pantheon and copies of the finest examples of the different orders to serve "as specimens for the architectural lecturer." Modern instruction there in these subjects has now been made possible by a gift of \$155,000 from an alumnus, Paul G. McIntire. Fiske Kimball, a member of the Institute, recently appointed its Historian, has been called to take charge of the courses in art and professional instruction in architecture to be inaugurated this fall. His researches, which first revealed the great extent of Jefferson's activity in architectural design and in the establishment of a worthy tradition of official art patronage in America, make the appointment particularly appropriate.

"The Tragic Muse" Fetches a New High Auction Price in London

There seems to be plenty of money available for paintings, and in common with the general tendencies, prices seem likewise to be going up. The famous picture, by Reynolds, of Mrs. Siddons as the Tragic Muse, came up for sale at Christie's on July 4, at the instance of the Duke of Westminster. For many years it has been at Grosvenor House, having been purchased in 1823 by Earl Grosvenor for £1,837. It was expected that a new record would be established in an English auction room, and that the sum of £40,000 paid for a Romney and a Raeburn would be easily exceeded.

The bidding began at 5,000 guineas, and the hammer finally fell at £58,600. It was an afternoon of big prices. A landscape by Jacob Ruysdael realized 12,000 guineas, whilst the artist's "View of Norway" went for 9,500 guineas. Above these was the remarkable price of 16,200 guineas for Jan Steen's "Spendthrift." In less than an hour thirty pictures were sold for a gross total of £100,000.

New Architectural Firm

Mr. Walter W. Judell and Mr. Harry W. Bogner announce the partnership of Judell & Bogner, with offices at 508 First National Bank Building, Milwaukee, Wis., succeeding the firm of Schuchardt & Judell.

Institute Business

Cablegram from R. I. B. A.

The American Institute of Architects has received the following cablegram from the Royal Institute of British Architects, extending its felicitations to the American architects on the occasion of the coming of peace: "The Royal Institute of British Architects salutes all American architects, and sends them brotherly greetings and congratulations on conclusion of victorious peace. (Signed) SIMPSON."

The Cost-Plus-Fee Building Contract Documents

A fourth tentative draft of a circular relating to the cost-plus-fee method of executing building contracts, together with a fourth tentative draft of a form of agreement to be used when such method is employed, has been sent to the members of the Institute.

This draft is a revision of the third tentative draft sent to Chapter officers and otherwise widely distributed in 1918. The revisions have been the result of the consideration of the third tentative draft in the light of the experience of the past two years of emergency war construction work, most of which has been done on this basis, but some of the fundamental changes are due to a belief that under such scheme of operation the general contractor assumes a fundamentally different relationship to the owner than is the case when he is working under a lump-sum contract, assuming under these conditions a more professional attitude toward the work, on which he becomes the owner's construction manager.

This fourth tentative draft is submitted for consideration of the members of the Institute with the hope that they will submit to the Committee on Contracts any suggestions they may have to offer in regard to the fundamentals or details involved. The Committee earnestly hopes that those who are interested in the matter will submit their criticisms and suggestions as soon as possible, in order that the present Committee may be able to bring the draft into final shape for issuance. Criticisms and suggestions should be sent to WILLIAM STANLEY PARKER, Chairman, Committee on Contracts, 120 Boylston Street, Boston, Mass.

Meeting of the Executive Committee

A meeting of the Executive Committee will be held on August 16, Detroit having been chosen as the meeting-place in conformity with the now established custom of making Board and Executive Committee meetings the occasion for a joint meeting with the various Chapters.

Award of Institute Medal

The Institute Medal for Students has been awarded to Kenneth John Conant, of the School of Architecture of Harvard University.

Committee on Fire Prevention: F. E. Davidson, Chairman; Julius Franke, Joseph Jacobberger, and William J. Sayward.

Obituary

James Sweeney

Elected to the Institute in 1912
Died at New London, Conn., July 3, 1919

Mr. Sweeney was born in New London, Conn., in 1870 and there spent his entire life. He was unmarried and is survived by one sister and four brothers.

On leaving school Mr. Sweeney became an assistant to the engineers of the city water department, where he

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learned the essentials of draughting and engineering. Five years later he entered the office of George Warren Cole and Edward Everett, architects, with offices in New London and Boston. While in New London he attended the Slater Memorial in Norwich, at the same time taking a special course in architectural design in the Academy of Design, New York City. About twenty-five years ago, at the death

of Mr. Cole, he began independent practice and subsequently designed many of the public buildings of New London, among them the Municipal Building, Harbor School, St. Mary's Parochial School, Lyric Hall, Union Bank and Trust Company building, St. Mary's Convent, Quaker Hill School, Thames Hall of Connecticut College, and many of the first-class residences of the city.

Book Reviews

The Real Estate Educator. By F. M. PAYNE. New York: T. J. Carey & Co. \$1.

This small volume, which the editor describes as a "repository of useful information" fully justifies its title. It does not take away from the value of the book to say that it is, for the most part, lacking in originality, for the short paragraphs of "Don'ts" and "Pointers" treat of subjects which should be of familiar knowledge to all men of affairs, but of which ignorance too often prevails.

It is only when the editor yields to the temptation of treading unbeaten paths of thought, as he does in the chapter on "The Successful Real Estate Operator," that he runs the risk of incurring strong adverse criticism. His theme must be quoted verbatim to be appreciated: "City values represent the superlative of civilization. The man who gets a piece of land just before it is overtaken by civilization is the man who makes the most money, provided he buys it before the seller sighted the first sign of civilization." It is assumed that a rising market is in the mind of the author.

A chart of realty prices, ascending, will at all times furnish a precise indication of the progress of civilization. As the converse must be true, the theory simplifies a number of hitherto complicated problems. For instance, a statesman, in doubt as to the degree of benefit which a certain much-discussed international agreement will have on civilization, need only call up his realtor and inquire if Mr. X will shade his asking price for that corner property. The answer will allow him to calculate to a fraction of 1 per cent the net benefit to be bestowed by the legislation. The illustration proves that rule only works on a bull market.

It is a pity that this chapter has been included in the book, but the pages devoted to its crude philosophy are few and can well be ignored when contrasted with the merit of the rest of the subject-matter.—JOHN IRWIN BRIGHT.

What of the City? By WALTER D. MOODY, Chicago, 1919. A. C. McClurg & Co. \$2.50.

A new value has been given to the word "promotion," and that by a self-admitted preacher.

"What of the City?" is the title of a volume by Walter D. Moody, which tells the story of the Plan of Chicago and demonstrates beyond dispute the essential value and the indispensability of organization, publicity, and promotion in any scheme for civic betterment or municipal planning. The volume is inspirational and historical. It does not place the planner and the theorist on quite as high a pedestal as they would put themselves upon, but it does point out the service that the promoter can perform.

Architects and town planners should read it to discover that they can do but little alone and to learn how to develop the interest and secure the coöperation of others.

That there is every reason to hope for success in city building when preceded by city planning is the conclusion which must follow a careful reading of this book. It is in no sense a technical guide nor manual for planners, but it is a textbook in promotion, and therefore contributes an essential which no architect, town planner, or engineer can ignore and ever hope to see results. The reader must not let the author discourage his search for theory nor let him lessen the value of technique. The adverse criticisms of theory must only be admitted to apply to half-developed and superficial theory, which is not theory at all. No theory is really theoretical unless it is capable of practical application and nothing is practical that is not based upon sound theory.

As a chapter in the life of Chicago, the book will have value to future students of history, provided they do not stop with this narration. Further investigation will reveal the names of many active citizens who have done much to bring about present accomplishments—people whose names are conspicuous by their absence. To people about to embark upon city planning and construction, the book may safely pilot them through the difficulties of the task and past those elements of the problem which are less understood than all other phases of the art of city building, so far as it is developed in the year 1919.

The author says nothing about—in fact he does not attempt to touch—the still greater problem of relating city to city throughout the country. That is the problem of nation planning and building. As this great task must be governed by the same general principles as city construction, it may not be too much to say that a work and an influence has been started in Chicago which is bound to become nation-wide, and that any book which has told Chicago's story, or only a part of it, has helped to build the nation.

Readers should go to this book for promotion ideas as related to city planning only. There is quite a little relating to economics which is not sound and to Government activities which ignores the very great contribution to community planning made by the U. S. Shipping Board, the U. S. Housing Corporation, and many other departments of the Government, as a result of the war and its necessities. Perhaps Mr. Moody may yet write a book relating the positive benefits of the war preparations which forced a degree of communal thought and action never before paralleled in history, and gave priceless object lessons which no city, large or small, can afford to ignore.

DWIGHT H. PERKINS.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS, FIRE-PREVENTION, STRUCTURAL SERVICE

Roofing

The discussion of materials for roofing and roof-coverings was begun in the June issue of the Journal by reprinting the section on "Roofing" from the 1915 Manual of the American Railway Engineering Association. The discussion will be continued and developed on the basis of that brief but comprehensive treatise.

The Manual lists certain considerations which should influence the selection of the most suitable type of roofing. Among these considerations are "Chance of leaks due to construction," and "Probable life, including chance of damage by the elements and by wear from other causes." An inquiry into the reasons why these two considerations are important will serve the purpose of focusing the reader's mind on the condition that the roof structure and the roof-covering together constitute the roof; and such an inquiry will serve also as an introduction to the discussion on roofing materials which is to follow.

The matters of cost and of resistance to fire are primary considerations and call for no comment beyond the statement that the ultimate cost, which is the cost including upkeep and repairs during a given service period, is far more important than first cost. But this carries us back to the consideration of "probable life." For the fire-resistant properties of various roof-coverings, reference should be made to the Underwriters' Laboratories' "List of Approved Mechanical Devices" (last issue dated July, 1918) and to local codes and ordinances. The fire-resistant properties of the various classes of roofing will be given consideration in the discussion of each class of material.

The architectural profession, and in fact the whole building industry, has been rather careless in the use of technical language and standard terms. When this characteristic finds expression in a field such as roofing, where standards are few and the terms in use have been separated from their original and dictionary meanings, misunderstandings creep in and language loses its power of conveying ideas. The following discussions are necessarily somewhat technical, particularly the discussion on bitumens and bituminous roofings, and it is therefore thought wise to preface each discussion with a brief nomenclature and statement on the conditions with respect to standards.

Chance of Leaks Due to Construction

The character of the roof construction should determine the character of the weather-proof covering to be applied to it; and, vice versa, if the character of the roof-covering is determined by architectural requirements of appearance or service requirements of resistance to wear of traffic, or resistance to fire, then the character of the

roof construction must be such that it will satisfactorily receive and support the selected covering, and such that the two together will constitute a roof meeting the requirements of life, service, and appearance.

The possible structural causes of leaks which demand more than casual thought (and they are always present to be guarded against, no matter what the character of the proposed roof-covering) may be best developed by reference to a few typical examples:

One such example is that of a built-up roof-covering to be laid over a flat-roof structure consisting of concrete slabs or other masonry. The movement in such flat-roof structures at expansion joints, or the opening of cracks due to expansion and contraction seems to demand the use of a membrane covering possessing tensile strength and ductility. If the roof covering does not possess these two characteristics, the movement of the base will cause leaks to develop at the expansion joints or contraction cracks. Bituminous materials used in such roof-coverings have no tensile strength and are ductile in varying degrees. Their ductility is affected by temperature, increasing with rising temperature until the melting-point is reached, and decreasing with falling temperature until they become brittle. And as low temperatures also open expansion joints and contraction cracks in the roof structure, tensile strength in the roof-covering, since it is not possessed by the bituminous substance employed, must be secured through the use of a membrane itself possessing tensile strength. It will be shown later that the so-called "wool felt" of commerce possesses little or no tensile strength.

The structural character of the intersections of flat roofs with vertical surfaces is often overlooked in the design of the roof-covering and flashings, and this is a potent cause of trouble. The common practice of sandwiching metal flashings into the roof-coverings is a bad method, if there is the slightest likelihood of movement between horizontal and vertical structures. This method of flashing such intersections is never the best practice, and may be done with reasonable assurance against leaks only when the roof and vertical structures are locked together or are monolithic, as is sometimes the case in concrete buildings. The roof covering should be turned up against a vertical surface and cap-flashed with metal. The objection to this method is that the felts ordinarily used are not pliable and break when bent at right angles.

The pitch of a sloping roof, considered in connection with the maximum roof temperature, will determine the nature, with respect to its ductility and melting-point, of the bituminous materials to be used in roof-coverings. There

are numerous instances of roof failures due to the movement down pitch of the bituminous waterproofing material used in roof coverings. This has happened on roofs with a pitch even as low as 2 inches (2") to the foot, where the roof temperatures are high and the melting-point of the bitumen is low. The pitch of a roof to be covered with sheet metal determines the nature of the seam or joint between plates. Standing seams are apt to leak on roofs with a pitch of less than 2 inches (2") to the foot.

For roofing tile and slate, provisions must be made in the underlying structure for adequate and lasting fastenings. "Nailable" concretes are offered in the market as a fireproof nailing base for tile and slate. None of them so far examined has been perfected and there have been a number of failures.

The use of unseasoned lumber for sheathing roofs to be covered with wood shingles, slate, tile, sheet metal, or prepared roofing will result in trouble due to shrinkage and warping.

When the dimensions of a roof surface to receive a sheet-metal covering are such that the accumulated expansion and contraction in the metal covering, due to change in temperature, will be more than the buckle in the metal sheets between fastenings can take care of, the covering must be so applied as to provide for contraction without tearing. Sheet-metal roofings, particularly of copper, under such conditions should be applied with standing locked or battened seams at intervals, such that the contraction in the metal sheet between them will not exceed their safe limit of give.

Classification of Roofs

The classification of roofings quoted from the Manual in the June issue is sufficiently accurate to obviate the necessity of restatement.

Roofing Materials

Bituminous Roofings

Nomenclature and Standards: In the case of bituminous roofings, some confusion exists between trade terms and trade names, in spite of the fact that certain trade terms have become fairly well standardized through use.

"Built-up Roof" designates a roof-covering consisting of two or more thicknesses of felt or fabric (membrane) used as conveyors or reinforcements for the bituminous water-proofing material, the several thicknesses being laid one upon the other on the roof, each coated with water-proofing as it is laid.

When the wearing or exposed surface of a built-up roof is covered with gravel or with particles of other erosion- and weather-resisting material, the roof is sometimes referred to as a gravel or slag roof. The term "slag" is used erroneously more often than not.

"Prepared roofing" designates a roof-covering consisting of similar materials, similarly combined, to those used in a built-up roof, but prepared complete in the factory and delivered in rolled strips or sheets ready to apply to the roof as a finished covering, the lapped edges of the strips or sheets being cemented together as they are laid. Such roofings are not infrequently referred to as "ready" roof-

ings. For the sake of uniformity in practice, the use of the term "ready" should be discouraged.

There are no standards for bituminous roofs, either built-up or prepared, except those established by the Underwriters' Laboratories for fire-resisting qualities. No tests or specifications exist by which the quality of the materials entering into the composition of bituminous roofs or by which the durability of the roofs themselves may be measured.

Prepared roofings are manufactured in several weights and thicknesses, but there are no recognized standards for either weight or thickness. Single-, two-, and three-ply are the terms now generally used by manufacturers to indifferently describe the weight or the thickness, or both the weight and the thickness of the material. There is no uniformity in the application of these terms, and in many cases the term "ply" is misleading because neither the thickness nor the weight of the "ply" is standard. A "two-ply" roofing may have no more material in it and be no thicker than a single-ply roofing, although the former may actually consist of two plies of thin felt.

The Prepared Roofing Manufacturers' Association is now considering the advantages of abandoning the use of the term "ply," and adopting in place of one-, two-, and three-ply, the terms "light," "medium," and "heavy" to designate the three thicknesses of prepared roofings commonly produced. (See July issue of the Journal for discussion on Standards.)

Bitumens: Two bituminous substances are commonly used for roofing purposes. They are the so-called coal-tar pitches and the asphalts. The pitches differ in physical properties, chemical and mechanical composition, and consequently in suitability for the uses to which they are put. The same is true of the asphalts.

Coal-Tar Pitches: The pitches used in roofings (referred to commercially as "coal-tar" pitches, although they are not always derived from coal) may be defined as the solid residue produced in the distillation of tar bitumens. These tar bitumens are:

Coal-tar, coke-oven tar, water-gas tar, all derived from the destructive distillation of bituminous coal in the production of illuminating gas, and in by-product coke ovens.

Oil-gas tar, the residue in the production of oil gas which is used sometimes to enrich water gas.

Heavy residue from the distillation of crude petroleum, having an asphaltic base.

Residues from the distillation of wood and from refining vegetable oils.

The generic term "gas-house tar" is frequently used to describe the tar bitumens produced in plants generating illuminating gas. Gas-house tar may be coal-tar, or water-gas tar, or oil-gas tar, or a combination of two or all of them. Some gas-producing plants make no effort to keep these tar by-products separate, all being accumulated in a single container.

The various tar bitumens are taken in the crude state by the manufacturers of roofing and waterproofing pitches and refined by heating to produce a residual pitch possessing the desired characteristics. There are many by-products from the refining process, such as the creosotes, dye-stuffs, the value of which has encouraged, if it has not made neces-

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sary, modifications in the process during the last thirty or forty years, in order that the quantity of by-products might be increased. Whether these changes in process to provide for the extraction of valuable by-products have affected the quality of the pitch as a roofing material is difficult of determination. Very little reliable data on the point is available, and the refiners are not inclined to freely discuss the question. There is abundant circumstantial and direct evidence, however, that the roofing pitches produced today are not the same as those produced thirty or forty years ago. In the first place, the tar bitumens from which the pitches are refined are today produced in by-product coke ovens which did not exist in earlier days, and now contain percentages of oil-gas tar, which is a comparatively new product. In the second place, the increased production of valuable by-products through the process of refining these tar bitumens must result in taking away from the residual pitches certain of their former ingredients. The principal reason for referring to the change that has taken place in the coal-tar pitches is that some manufacturers use as a selling argument for their products the fact that there are coal-tar pitch roofs still giving satisfaction which have been in service twenty or thirty years. Purchasers of bituminous roofing should not be greatly influenced in the selection of materials by such statements while there is a lack of accurate knowledge on the part of the average purchaser as to the effect on the coal-tar pitches of changes in the production process that have taken place during the service period mentioned.

The characteristics of coal-tar pitches which are of importance when the material is to be used for roofs are purity and melting-point. Purity is determined by the contained percentage of free carbon. A suitable material should show free carbon between 25 and 30 per cent. A suitable material for use on roofs in temperate zones should have a melting-point of not less than 140 degrees Fahr. and higher as the maximum roof temperatures rise. The percentage of mineral ash in coal-tar pitches affects the permeability of the roofs. Most manufacturers claim to make such determinations in their materials, but do not announce the percentage of ash permitted in the product placed upon the market.

With reference to the melting-point of coal-tar pitches, the report of Subcommittee A of the Committee on Buildings of the American Railway Engineering Association contains the following statement: "The melting-point of the pitch, a very important matter, depends upon the point to which the distillation is carried and the amount of free carbon. This should be varied somewhat to suit the climatic conditions. Pitch for use in the fall in Winnipeg would be very difficult to work in New Orleans in the summer. The melting-point of the pitch is not definite, and in defining it a special specification is necessary. The use of a pitch with a melting-point too high to allow satisfactory working and requiring the addition of fluxes on the work, giving a "cutback" pitch, is very liable to give uncertain results and should not be allowed. Worse than this is the use of tar or soft pitch stiffened by the use of land plaster, Portland cement, or similar materials. This not only is uncertain in its results, but it gives a product liable to have short life. The best practice allows the use of nothing but straight pitch."

While it is important to know the characteristics of coal-tar pitches which make them suitable for roofings, such determinations are usually made for samples of the material before it is heated in the kettle and applied. What is really needed is a knowledge of the characteristics of the material after it has been heated and applied to the roof. In heating for application, there occurs a loss of weight in coal-tar pitch sometimes as high as 15 per cent. This loss can be accounted for only through the evaporation of the light volatile oils. Another consideration, which has to do with application, is the practice, not uncommon among roofers, of "doping" the pitch in the kettle to make it flow freely under the mop. Yet another condition to be guarded against is overheating or "burning" in the kettle. If this happens, the material loses many of the characteristics which are essential to good roofing material.

The reader will doubtless feel that the foregoing statement conveys little or no definite and useful information on coal-tar pitch. Such a view is justified by the facts. While there is a large amount of general and technical information available on roofings other than those classed as bituminous "there has been no series of tests standardized and accepted which proves that a particular piece of roofing made from a certain material and by a certain process is more suitable for a given purpose than another piece of roofing made from a different material or by a different process. Also, most of the tests that have been suggested are workable only when conducted in a well-equipped laboratory, and by some one thoroughly familiar with bitumens and also with their practical uses. Therefore, such tests are not available for the average buyer of roofings. As a result, each manufacturer has been free to make such claims for his own particular product as his judgment or business necessity has suggested, in most cases without danger of positive and conclusive contradiction." (G. L. Wilson, in *Chemical and Metallurgical Engineering*, April 15, 1919.)

It is indeed true that, technically, the purchaser of coal-tar pitch roofings knows very little about the material upon which he must rely for the protection of his building and its contents against destructive attack by the elements. However, practical experience has given us some general facts which are of at least passing value.

All bituminous materials, such as the asphalts and coal-tar pitches, undergo a gradual change in structure when they are in contact with water for long periods or when they are exposed to sunlight. A suitable coal-tar pitch is less affected by sunlight than an asphalt compounded with equal skill and knowledge. This would seem to suggest the use of protective coverings of gravel, slag, crushed slate or tile on bituminous roofings.

The flow point, that is the point at which all bituminous material begins to creep, is considerably below the melting-point. Coal-tar pitches, generally speaking, have lower melting-points than the asphalts, and a much higher melting-point can be secured in asphalt than in coal-tar pitches without sacrificing the material's ductility or its other desirable characteristics. This condition would seem to argue for the use of asphalt in hot climates and on roofs with a steep pitch, where the temperature is likely to approximate or rise above the point at which the material begins to flow.

Asphalts: Asphalts, generally speaking, are of two classes. The first class includes those native or natural bitumens which are found in solid and semi-solid state. The second class includes solid or semi-solid bitumens derived from refining petroleum oils having an asphaltic base.

The more important of the natural asphalts which belong to the first class are:

Trinidad, which comes from the Island of Trinidad, and is of unusually uniform quality. It contains percentages of water, mineral matter, and vegetable matter, and sometimes soluble salts.

Bermudez, which comes from Venezuela. It is not as uniform in quality as Trinidad asphalt, but the mineral matter content is much smaller.

Maltha is a semi-liquid asphalt occurring as a saturant of sandstone (often referred to as mastic rock) or in a stiff mixture with sand. It is separated from the stone or sand by heating. Maltha is the descriptive term also applied to semi-liquid asphalts of comparative purity found in limited quantities, principally in California.

Rock asphalts, such materials as gilsonite, and elaterite from Utah, and grahamite from Oklahoma. A description of the characteristics of these materials in connection with roofing is unnecessary because they are seldom employed for roofing purposes, their cost being prohibitive and the expense of fluxing and compounding being too great. Moreover, their superiority for roofing purposes over other less expensive and more easily manipulated materials is by no means established.

The derived asphalts belonging to the second class are the residuals from refining crude petroleums, principally from California, Texas, and Oklahoma. The eastern oils, those from the Pennsylvania fields, have a paraffin base.

The natural asphalts, in their crude state, are of little commercial value. All of them require refinement, and with one or two exceptions, also compounding and fluxing to be rendered suitable for use as roofing materials. The petroleum residuals or derived asphalts also have to be "cut back" or fluxed.

The character of the fluxes used has an important effect upon the finished product. The fluxes should be stable, that is, slow to evaporate, and likely to undergo very slight change on exposure to the atmosphere or water; otherwise the fluxed asphalts will lose their ductility and become brittle. A very considerable knowledge of the chemistry of hydro-carbons and skill in handling them is essential to the production of a suitable compound.

The asphalts are not refined by manufacturers of roofings. Most roofing manufacturers buy their asphalts from such large refiners as the Standard Oil Company, the Texas Company, and the Barber Company. A few compound the materials, but not always with the necessary skill and knowledge.

The asphalts used for cementing together and coating the layers of felt or fabric in built-up roofs are generally compounded principally from the natural asphalts. They are used, also, to some extent for coating prepared roofings.

The derived asphalts, or petroleum residuals are used to saturate felt because they become very liquid at comparatively low temperatures, and have a greater penetrability than the natural asphalts. Large quantities of the asphalt residual from California oil have been used for this purpose. The subject of felts and fabrics will be dealt with fully under a separate heading.

The same ignorance prevails with respect to the desirable characteristics of asphalts for roofing purposes as has been referred to in connection with coal-tar pitches. The whole subject of asphalts and asphalt compounds, from the technical and chemical standpoint, is far more complex than is the case with the coal-tar pitches. And as asphalts are more widely used in the manufacture of prepared roofing, and by persons frequently possessing little technical knowledge, the purchaser of this product is at a distinct disadvantage.

Asphalts are honestly refined and skillfully compounded, and when such is the case, they should be and are of excellent quality and uniform. Such asphalts are almost indispensable for some uses where ductility must be retained through a wide range of temperature changes. But there is too much careless and promiscuous purchasing of asphalt by roofing manufacturers. One cause of trouble with asphalt roofing is, primarily, that the derived asphalts used are regarded by the oil refiners as a waste product. Consideration of quality in this waste product influences them not at all in the processing. A very few manufacturers of roofing asphalt use certain natural asphalts, which they refine themselves in such a way as to secure a product of the highest quality which knowledge, skill, and integrity of purpose can produce. Engineering staffs of some of the railroads have made exhaustive studies of asphalts and are buying more and more from those manufacturers who spare no pains and expense in the effort to produce a quality product.

The following is quoted from a statement by an eminent expert: "The desirable asphaltic material should be 95 per cent bitumen, soluble in cold carbon disulphide. Of this bitumen, 25 per cent should be asphaltene, which is insoluble in cold petroleic ether 62° B. The melting-point should be between 140° F. and 180° F. The ductility should be at least 30 centimeters at 77° F., the material being elongated at the rate of 5 centimeters per minute. The consistency of 77° F., after heating to 325° F., for five hours, should show at least 50 per cent of its original consistency at 77° F., before heating, the consistency being determined in hundredth centimeters by a No. 2 cambric needle, weighted to 100 grams, acting for five seconds. The volatilization loss should not exceed 5 per cent when 20 grams of the material are heated for five hours to 325° F.

"The percentage of mineral ash content in the asphalt seems also to have direct effect upon the permeability, and, therefore, the life of the material. All asphalts contain such ash, but the permissible amount has not yet been determined."



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After a drawing by Louis C. Rosenberg

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Shadows and Straws

THE STATE OF NEBRASKA is to build a new capitol. In the selection of an architect a competition is to be held. As a new capitol is a comparatively rare undertaking, the event is one of considerable interest. Without knowledge as to what may be in the minds of those who represent the state in this matter, or in the minds of the jury of award later to be chosen, or the program to be drawn as a guide for the competitors, the impending event suggests a retrospect and a speculation.

How were the great buildings of the past created, for example? Did they begin with a competition, and was there a program, and an award, and a selection, and a building all completed and handed over in the course of anywhere from two to five years? Not by any means. Things moved in a more leisurely way. No doubt we are much inclined to stress the quality of charm that we assign to the slowness of those times and to over-credit the possession of leisure to a certain quality in the people which led them to demand it as a means of satisfying their esthetic or spiritual existence. It is difficult to believe that some of them may not have been more or less lazy, or that they would not have built faster if they had known how, although, as most of their great buildings were not involved with large amounts of private capital which demanded the shortest possible loss in the interest-bearing period, one great spur to building speed was not present. Yet one is still a little reluctant to believe that they would not have adopted certain of our labor-saving methods and appliances if they had been offered, for seldom have contrivances of that kind gone unappreciated in any age.

We could, no doubt, discover, if we had the complete records, that they were constantly making progress in those directions, and that the workmen of those days were continually inventing and contriving ways of doing things quicker and easier (as all workmen have been doing since the organization of labor), strong as were the traditions and standards and rules of the crafts they plied in medieval times. And, after all, it is only within the last generation, so to speak, that we have so speeded up our own building methods, and largely because of the discovery of steel construction and the use of concrete. But, nevertheless, and whatever the reason may have been, the people of the great period of medieval building do seem in some manner to have realized that the creation of a great civic structure was something more than a building undertaking. There was, if one may be forgiven the word, a certain spiritual accompaniment. The people had a share in the proceeding, in the first place, as in the cathedrals of Italy, for example, which were state undertakings, financed by yearly levies and contributions. The work demanded a sacrifice, very often, and the building became a national event having a direct import in the lives of the people. It was the "opera" or the "work." It was almost a national avocation.

IT WAS AS THOUGH they understood a building as we do not. Its form and mass and detail had a common interest and was almost unconsciously perceptible, possessing a meaning, if you will, which gave pleasure without effort, which satisfied a craving for expression, for the play of the spirit, and for the enjoyment of the beautiful,

although it was all unconscious no doubt, and could not have been explained. It did not need explanation, such as all art has come to need nowadays, and passed as a natural corollary to life itself. Of course we must here reckon with the great part played by symbolism. The printing-press had not been invented, and imagery held full sway in all methods of inter-communication. The meaning of images and symbols was clear, for it came through direct association with the thing or event imaged or symbolized. It was the day of bard and minstrel, of mime and troubadour, of history written for the great mass of people only in song and story, passed from father to son, from mother to daughter, from minstrel and mime to the groups among which they roamed at periodic intervals. Thus the knowledge of and feeling for imagery was a very common possession until they were displaced by the invention of the movable type. A building was a book in which all could read. Today, only a very small minority can read a building, and, alas, too few buildings offer anything that is worth reading.

Shall we assume that the standards of public taste were higher then than now, and therefore take it for granted that by far the greater number of citizens were qualified to discuss the work as it proceeded? Such an assumption seems a fair one, from our knowledge of the times and the buildings they produced, but at any rate we know that the workers on these buildings were abler craftsmen, as far as their respective trades were concerned, and while they no doubt were very human and did not sit round in the cold atmosphere of pure esthetics and philosophize upon the spiritual significance of this line or that form, they had an innate knowledge of line and form, and were not dependent upon a master architect for detailed drawings and voluminous specifications. They had no art schools and they needed no art commissions. When they were not at work they no doubt went fishing and made love, and at times drank over-much. They were mortals, like the rest of us, yet they could do things in building that we cannot.

THE BUILDING GREW SLOWLY, which of course would not do for us at all. We pride ourselves upon the fact that we can do in two years what they did in two centuries. But is the result the same? That is both a hard and an easy

question to answer. If by result we mean the physical product, we may say that our building will serve its purpose, as a shelter for human activities, quite as well, or better, than the old ones, and that its usefulness begins in a very short time. We do not have to wait two centuries, and, by building with great speed, we release a great amount of both capital and labor for other undertakings. We could not possibly wait two centuries for a new capitol or for any other building!

But, on the other hand, one feels quite safe in saying that our building, with all its benefits to the citizens, has not the same significance as had the older ones. We have not yet learned that the greatest function of art is to satisfy him who produces. We have not yet learned how to capitalize and make effective the latent spirituality in our citizens. They are used to buying art as they buy food, and they have lost the hunger for exercising their creative instincts, for our system of producing things has killed those instincts in all save the little band we now know as "artists." The citizens of Nebraska, for example, will buy a capitol, and will be proud of it, but will they love it and reverence it and understand it as the people of Italy understood their buildings? Perhaps they will, but is not the chief task of those who are to have the building in charge to make sure that the people of Nebraska so regard their capitol, not only in the beginning but as long as it stands?

More than that, is it not also the task of the state to see to it that the people of Nebraska, young and old, are made to understand what a capitol building means. Or, one might more properly say, they should understand what a capitol ought to mean, beyond the bricks and mortar of which it is composed. Here, indeed, is an opportunity for a lesson in art and a lesson in citizenship at the same time. The people of the state should, in some way, be interested to refamiliarize themselves with their history, with the events that have marked their progress. The children in the schools, of all ages, should have a special course in Nebraskan history, by which they should be stimulated to suggest symbols and images of that history, such as could be painted or carved as part of the decorative treatment. At the same time, they could also get a vision of the future state of Nebraska—of the destiny it ought to achieve as an agent for

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the building of greater human happiness. In other words, they should in some way put something into their capitol besides money. It should not be designed and contracted for and built and handed to them as a finished product, which, like a toy, will quickly lose its charm, as ready-made toys do.

Of a truth, the capitol should never be finished. There should always be room for a kind of embellishment such as would keep interest alive and center the affection of the people in it. In what manner could citizenship be more surely stimulated to demand that the capitol be not only a fine building but a place in which men do better things than are done in our capitols of the present? Are any of us satisfied with all that goes on in our capitols?

WHY NOT HAVE THE PROGRAM for the competition confined to architects who are known to be able to design and build it—and surely no others would be invited—and instead of asking for a set of drawings, ask for a thesis upon what a capitol should be and how it could be made to serve the great purpose of helping to build a finer state? A program drawn up by one man, or by any group of men, disarms the competing architect at once, for it stifles his best and most useful powers—those of creation and imagination. True, he can use them somewhat in the design and plan, but he is after all bound by a conception that is not his own, by the rules of cubage, and, worse than that, he is also bound to respect the known predilections of the jury. He cannot design in opposition to the kind of building he knows will win their approval. Given twelve architects of known ability, I would rather choose on the basis of a clear presentation of their original conception of what a capitol building should be than upon the basis of their design as fitted to a preconceived idea of somebody else as to what a capitol should be.

And, again, will the state of Nebraska make it possible for such collaboration in its capitol as alone can produce the kind of building that is held up as representing architectural perfection? Will it leave collaboration to chance, for example, or will it invite painters and sculptors to go and live in Lincoln with the architect, and there daily ponder and discuss their joint responsibility and opportunity. That was how

the great buildings were built—not by buying a jumble of unrelated decoration, nor yet by committing the sculpture and painting to the autocratic control of the architect. I remember the report of the Committee on Allied Arts of the Institute, some years ago. It was signed by a chairman who is now the architectural advisor to the Nebraska State Capitol Commission. Its slogan was "Collaboration," and now that there has come to him the greatest of opportunities for encouraging the right kind of collaboration, one can only wish him the power to bring it to pass—for he will need tremendous power if he is successfully to persuade Nebraskans to build in the right way.

And I speak of Nebraskans only because it is of their capitol I write. The problem would be quite as difficult in any other state. Of course we cannot jump backward to medieval times, leaving all our scientific progress behind us, but we might try a big jump forward and accept as basic the principle that only through an industrial freedom, such as that of the great building epochs, can we get a civic building that will be really great in the full meaning of the word. Where are the modern buildings that inspire men to great citizenship?

THESE ARE ONLY a few of the reflections that are suggested by this newest of competitions. One could write an elaborate thesis on the subject of how a state capitol should be made an effective symbol of citizenship and a great lesson in art at the same time, but that is the function of the architect who is to design it. If he lacks that conception, then the building will never possess those qualities, but will remain still and cold and lifeless. The cornerstone will be laid with a ceremony, and there will be speeches at the dedication. After that, there will be boastfulness and pride, but no understanding.

But it is so difficult to break a tradition—even a bad one—that Nebraska doubtless will pursue the conventional path, secure the conventional building, with the conventional result. Yet what a lesson she might give to the rest of the nation if her commissioners had the courage to break a new path? Yes—I think the school children of Nebraska ought to play the biggest possible part in building the new capitol. I am not sure but what I would have them write the program.—C. H. W.

Reconstruction in the Building Industry of Great Britain

By G. D. H. COLE*

IT has long been obvious—long even before the war—that the British building industry stands in need of reconstruction. It is not technically efficient; its methods have been unprogressive and it has rubbed along somehow without any system of costing or scientific pricing of jobs; it has been peculiarly liable to dislocation and to ups and downs of employment which have had a bad effect on the working personnel; it has been under-capitalized and overstocked with small masters; it has suffered from a lack of contact between architect and builder, and the architect has suffered because he has been forced to become less a designer than an engineer and quantity surveyor. The personnel of the industry—designer, surveyor, employer, and workman alike—have suffered severely from a lack of imagination and have persisted in conservative courses even when their serious effects upon the industry had become manifest.

The years before the war were, of course, years of depression in the building industry. The war, while it caused a certain amount of emergency building in munitions areas, virtually shut down private building altogether. In consequence of the housing shortage thus created, and of the growing demand for a higher standard of accommodation in houses, schools, and buildings generally, there can be no question of a shortage of work for a long time to come. Builders are certain to be busy and prosperous; it is only a question of how the industry is to be organized in order to give better service to the public than it has given in the past.

In order to understand the developments which are now being discussed, it is necessary to realize that, outside of London and a very few other of the largest towns, there are hardly any large employers in the industry. The great bulk of the work is in the hands either of a very small number of big contractors, or of a very large number of quite small masters. The Lon-

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don Master Builders' Association, which has conducted such fierce campaigns against trade unionism in the past, is predominantly representative of the big employers; the numerous associations in the provinces mostly represent quite small employers.

These small employers, who are thus still the largest factor in the industry, usually combine in their own persons the rôles of capitalists and managers. The amount of capital required for the smaller building operations is very little, and the normal master in the industry is a comparatively poor man, using a small amount of capital, whether borrowed or his own, and usually managing his own business, often by methods which are largely those of rule of thumb.

Almost all the associations of building trade employers, including the London as well as the provincial associations, are represented on a National Federation, while the operatives, on their side, have a National Federation which includes nearly all the trades in England and Wales, though it does not effectively cover Scotland. Between these two federations has been established the Building Trades Parliament, officially known as the National Council for the building industry.

This joint body, representing employers and trade unionists, has for some time been considering the whole future of the building industry. It appointed a committee, nominally to deal with scientific management and reduction of costs, and the report of this Committee, prepared for submission to a full meeting of the Building Trades Parliament on August 14, is the document to which I now desire to draw special attention. It must be remembered that it is the report of a joint committee of eight employers and eight trade unionists, not indeed unanimously agreed to, but concurred in by a majority of the Committee, and ordered to be placed before its full body. It is a very remarkable document, and the most remarkable thing about it is that it emanates from an industry which has been, hitherto, so little inclined to progress of any sort.

RECONSTRUCTION IN THE BUILDING INDUSTRY OF GREAT BRITAIN

It is clear that, as soon as the Committee set out to deal with scientific management and cost of production, they saw the impossibility of making any changes that would be effective without submitting to the most searching examination the very principles, or lack of principles, upon which the industry is at present conducted. They saw that, on the one hand, the employer is often unimaginative and hampered by insecurity and lack of capital; while, on the other hand, the workers are subject to recurrent periods of unemployment and disinclined to take any special trouble while the industry is conducted for private profit and they have no control over its working. With these and similar unpleasant facts in mind, the Committee set to work to lay down a basis on which the industry might not merely free itself of the difficulties which drag it down, but become organized to a real and considerable extent on the basis of public service.

Beginning with the workers, the Committee suggested in the first place that a levy of, at the most, 5 per cent on the wages bills of all employers would suffice to give every trade unionist in the industry an absolute guarantee against unemployment. They did not, indeed, suggest that full wages should be paid to the unemployed worker, but half wages, supplemented by a payment of 10 per cent for the wife and the same payment for each child under sixteen years of age, up to a maximum of full wages. This unemployment provision, to be dispensed by the trade unions and paid over to them as a charge on the industry, was not to be called upon until every effort had been made to decasualize building work and open up avenues of steady employment. For this purpose, local, regional, and national joint committees of employers and trade unionists were to be set up, to work in the closest possible conjunction with public authorities and other customers or clients of the building industry. The Committee anticipated that the guarantee against the rigors incidental to unemployment would clear away one of the most powerful obstacles to the active coöperation of the worker in making the industry as efficient and successful as possible.

But the scheme propounded by the Committee goes very much further than that. It is realized that, if the operatives' status needs

to be changed, so also does that of the employer. It is therefore proposed to discriminate sharply between "capital" and "management." The real capital employed in the industry, it is proposed, shall be ascertained, and on this real capital should be paid a guaranteed and limited rate of interest, varying with the yield on Government securities. The services of management should also be ascertained, and each employer who is also a manager should receive, as manager, an adequate salary. In short, he should cease to be an employer in the ordinary sense, whatever he might remain in name, and should become the servant of the industry as a whole.

Profits, as distinguished from fixed interest on capital and remuneration for management, disappear under this scheme. It is anticipated that, even after guaranteeing reasonable interest on capital, except where the failure to earn the interest could be shown to be the result of mismanagement, there would certainly remain a surplus in the hands of the industry. This surplus, it is proposed, should be used not for distribution to owners or managers, but for the benefit of the industry, for the provision of new capital as required, for superannuation, and for other communal purposes of the industry. The employer would thus remain in the industry in his capacity of manager, and the desire to amass huge profits at the expense of the consumer would, it is contended, become obsolete.

If the element of capital were, as it were, "segregated," and assured of neither more nor less than a moderate fixed return; if the employer became a manager, and his gain, varying by ability or by luck, were replaced by a salary varying with his competence and the scale of operations; if the manual worker received an assured status in the industry by being relieved of the fear of unemployment and secured, through works committees and local and national committees, a real share in control, then, it is urged, the way would be clear for a real reformation of building enterprise as a whole. The ideal of public service would be able to assume its rightful place, and the profit-making motive would be dethroned.

Of course, much would still remain to be done. The present building trade employees and the manual workers are by no means the whole personnel of the industry. The architect has

also to be considered, and here it must be admitted that the proposed scheme of reorganization is at the weakest. It is indeed proposed to allow a single architect, nominated by his professional association, to sit upon the joint committee which it is proposed to establish locally between the building industry and the public authorities. But, beyond this, the imagination of the Committee responsible for the scheme does not appear to have carried them. They present no vision of the architect as an integral part of the industry, who must be absorbed into and assured of his rightful place in the structure before the health of the industry can be restored. This omission is, no doubt, largely the result of circumstances beyond the control of those who drew up the scheme. In the Building Trades Parliament they found ready to their hands joint machinery in which manual workers and employers were already associated together, and they well knew that neither side on this body would be prepared to tolerate the intrusion into it of the architects as a third party while the existing relations between employers and workers remained in being. It is, however, fairly clear that, if some scheme such as that which the Committee proposes were actually carried out, it would make far easier the incorporation of the architect, in his function as designer and planner, into the structure of the industry, because the

industry would have ceased to be primarily a battleground for two contending parties.

I may seem, in the foregoing, to have spoken with undue optimism of the scheme put forward by the Committee of the Building Trades Parliament. If so, it is not because I have any confidence that it will be adopted by the Parliament as a whole, or that, if adopted, it will be put immediately into operation. It has already had a stormy passage in the Committee, and the forces against it are still very strong. But I am optimistic because, whatever its fate may be, it is a real sign of life, and its adoption by the Committee is a sign that the need for drastic industrial reconstruction is widely recognized. No doubt the fact that three advocates of National Guilds served on the Committee in various capacities was largely responsible for the shape which the report assumed; but these three men could have done nothing unless their idea of free public service as the keynote of industrial organization had found a real response in the minds of others. The report is evidence that it did find such a response; and, even if no immediate practical results are secured, the work will not be lost. Drastic reorganization of the British building industry is inevitable, and, when it comes, it can hardly proceed on lines other than those of organized and democratic self-government of the industry inspired by the motive of free public service.

Philippe Baucq

PERHAPS there are no architects in America who knew, or had ever heard of, Philippe Baucq, architect, of Brussels. Yet in the address commemorative of his heroism, delivered by Monsieur Duhicque, President of the Société Centrale d'Architecture Belge, the name of Philippe Baucq is joined with that of Edith Cavell, because, said Monsieur Duhicque, the two names must forever be associated in memory of two of the most poignant dramas played upon the tragic stage of Belgium during the German occupation.

Philippe Baucq was not a soldier. He had a wife and two little girls, and for twenty years he had been ardently devoted to architecture. Monsieur Duhicque, in his address, recalled his

impressions of Philippe Baucq as a student. "Architecture was for him the art of construction. It evoked in his spirit the image of superposed courses, cemented by an indestructible mortar, riveted to the soil by their very weight. Grace and ornament were strangers to him, and this conception of his art, in which was reflected the primitive soul of his race, was his ideal of the artist and the moral rule of his whole life."

When the invasion of Belgium swept like a swift blight from Liège to Brussels, and then on in pursuit of the scattered armies of the Allies, there were many wounded who hid in the homes of the inhabitants. Also there were thousands of soldiers who became separated from their regiments. An organization was hurriedly

PHILIPPE BAUCQ

formed among the Belgians for the purpose of saving these men by piloting them across the French and English frontiers. Strictly speaking, they were prisoners of war, says Monsieur Duhicque in his address, but who dared trust to the honor of an enemy, the tales of whose massacres and brutalities had spread like the shadow of death from the Ardennes to the North Sea?

Philippe Baucq volunteered as guide. Under cover of darkness, each night, he carried out his dangerous service, returning to his home before break of day, and it is said that he was the means of restoring no less than three thousand soldiers to their regiments. But this was not the end. When the Belgian troops were pushed across the Yser and separated from their country, their homes, and their families, it became necessary to organize a means of communication. A secret war post was established by means of which letters were conveyed through the enemy's lines from the soldier to his home, and Philippe Baucq became a war postman. The night of his arrest, when under guard of two soldiers he witnessed the search of his home, his companion was able to conceal from the searchers some three thousand letters that were still undelivered.

Was it by night that Philippe Baucq traversed the streets of the ancient Flemish town—those narrow and tortuous streets of the old city, connected as they are by such tiny alleyways and such queer courtyards and areas? Did he slip quietly in and out under cover of the dark shadows, or did he, in broad daylight, walk the Grande Place, or climb the Rue de la Madeleine or the Boulevard du Jardin Botannique, to the upper part of the town, where the grim Palace of Justice looks down on the laughingspire of the Hotel de Ville? Did he have his rendezvous in the Avenue Louise? Or in the glades and recesses of the park, or in the Bois de la Cambre? What a strange occupation for an architect, and yet who that knows the history of Flanders can be astonished at any act of heroism by a Fleming? Of all races, none is more indomitable.

Who does not remember the story of the *Libre Belgique*, that little newspaper published by the Belgians in the city of Brussels, under the very eyes and nose of the whole Prussian secret service, and which, even up to the very

end of the war defied all their efforts to discover the spot where it was printed or the manner in which it was delivered, with a regularity that provoked, in German circles, a rage that knew no bounds?

No tale of the war is more grim in its humor than the tale of the *Libre Belgique*. Like a saucy wanton it mocked all the powers of Prussia. What must have been the humiliation of the great German military machine, as week after week the little newspaper spread its message of defiance among the people that refused to be conquered or to renounce their allegiance. And if there be a single note of laughter in the sacrifice of the life of Philippe Baucq, we may perhaps feel that he had his moments of quiet chuckling, for he was one of the devoted band who risked all in distributing copies of the *Libre Belgique*. In what manner he concealed them and how he managed to slip them under the doors of the Belgians in Brussels, Monsieur Duhicque does not tell us, but no doubt the tale will be told, and no doubt the children of Belgium will learn of Philippe Baucq as we learned of Nathan Hale.

Philippe Baucq was executed by the Germans, as was Edith Cavell, and on the same charges. Of all the laws of war, none is more stupid than this form of murder, for it ends the lives of the very best that nations have to give. Such work as that of Philippe Baucq and Edith Cavell involves a heroism of the highest kind, unfortified by the passion of the charge or the madness of the hand-to-hand combat. In silence and alone, such heroes work, with the firing-squad forever looming ahead like a ghostly embrace waiting to conduct them to an inescapable doom.

The closing words of Monsieur Duhicque's address are these: "My dear Baucq, you leave among us a noble memory! Your eyes were not closed amid the tragic horror of combat. You did not fall in the intoxication of a vast battle, under the flying fold of a flag. It was coldly, as complete master of yourself, in the reflected consciousness of your duty, that you sacrificed your life for your country.

"We bow our heads respectfully before the sombre energy of your will. As for the crime that laid you here, nothing can efface it."

Nothing?

B.

Post-War Committee—Preliminary Conclusions*

A PERSONAL IMPRESSION

By CHARLES HARRIS WHITAKER

A MEETING of the Executive Council of the Post-War Committee on Architectural Practice was held at Detroit, just preceding the meeting of the Executive Committee of the Board of Directors of the Institute, on August 14. It was the first meeting of the Executive Council since the Convention. During the interim the members have had opportunity thoroughly to canvass the discussions at the Convention as well as the accumulated opinions which have been received from all over the country. They have likewise had occasion, in common with the rest of mankind, to observe the changed and still changing conditions produced by the end of the war. In truth, to say that conditions have changed and are still feverishly changing, is a mild way of stating the case. We live in quite a different world from that which existed when the program of the Post-War Committee was issued. It is a world which suffers from maladies that are as yet largely undiagnosed, and for which there are no remedies that seem to please more than the group which advocates them.

Of course, it is not the function of the Post-War Committee to attempt a diagnosis of the ills of our present economic system or to seek a remedy therefor, yet it is impossible for it to weigh any single item in its program without envisaging present conditions. They loom too large to be overlooked by anybody who is not accustomed to have his thinking done for him by a newspaper. To such it is evident that the vicious circle in which rising wages pursue higher living costs is today bearing, on the rim that holds it together, a centrifugal strain which is not only acute but dangerous. The hopeful sign is that more people than ever before have begun to see and feel the vicious circle itself; the fear is that the speeding up process from which all wage- and salary-earners (as well as those with small fixed incomes) are at present suffering will be attributed wholly to the effects

*The conclusions discussed in this article were adopted by the Executive Council of the Post-War Committee to be sent to all members of the Committee for comment and criticism. In their final form they will form the basis of the next stage of the program of the Committee.

of war, or to profiteering, or over-exportation, or to any of the minor and incidental causes, and that the major evil toxins of unearned increments, vast watered capitalizations of natural resources, a system of supply and demand under which Profit can take unfair advantage of Necessity, together with the steady sabotage of producers, whether as employers or workers, will escape unnoticed save by the courageous few. We shall forget that the platforms of both political parties in the not very remote year of 1912 contained the following planks:

†*Democratic.*—The high cost of living is a serious problem in every American home. The Republican Party, in its platform, attempts to escape from responsibility for present conditions by denying they are due to a protective tariff, etc., etc.

Republican.—The steadily increasing cost of living has become a matter not only of national but of world-wide concern. The fact that it is not due to the protective tariff system, etc., etc.

This was in 1912. Most people will remember it, and even architects were aware of its effect on the building industry. Today things are much worse, and if they seem remote from the work of the Post-War Committee, it must be remembered that one of the primary functions of that body is to suggest a form of organization for the architectural profession. But, in the consideration of that problem, it is necessary to think of all the aspects of organization life and activity and not to skip cheerily from one high spot to another. In the deliberations of the Executive Council, of which I am writing, it early became evident that one of the first things the Council should seek to determine, tentatively, perhaps, and yet with a conviction that its determination was basically right, was the manner or form of organization best suited to the Institute of the future. Or, to state the case a little differently, what, in the opinion of the Post-War Committee, as deduced from the evidence gathered, should be the proper function of the Institute as an organization concerned

†*New Republic*, August 13, 1919.

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with the profession of architecture. But, here again, you are brought face to face with the fact that you cannot discuss organizations at this moment and do it intelligently unless you are willing to open your eyes and your ears to what is going on all around you. Groups are coming together in every vocation and trade and profession. Brain-workers are organizing with astonishing rapidity. Many of them are seeking affiliation with the recognized labor federation. There is scarcely a line of human activity where men and women are not discussing either the formation of a new organization or the means by which an already established one may exert pressure against the forces that menace its members. Policemen, actors, school-teachers, journalists—to mention only a few of the vocations that have newly come prominently before us in their organizational activities—sound the key-note of what is happening, and touching the profession of architecture very keenly, there are the proposed draughtsmen's unions.

Curiously enough, when a supreme effort is being made to create a great world organization that shall embrace almost all of what is known as the civilized world, for the purposes of safeguarding the separate organizations known as states or countries from each other, the component economic parts of the world seem to be flying asunder as though they were fragments scattered by the explosive force of a meteor suddenly plunged into the cold ether. It is as though the wheel of national emotionalism had

*"Among many sources of disquietude around us in these dark days—so sharply contrasted with those of five years ago, which somehow, in spite of their terror, were bright—none is more fundamental than the persistence of *moral unreality* in so much that is said or written or done: not least by those who are by way of leading and governing. One obvious instance of this is the piecemeal method of handling problems. During the war no doubt it was necessary: though even then more of principle and less of improvisation would have paid all round. But by now we ought to be able to see at least the beginnings of a moral programme—using the word 'moral,' of course, in the widest sense. . . ."

" . . . But when, and how, are we going to deal with it honestly, adequately, scientifically? . . . Fear is still the root-motive of action on every level. We seek the new social order we talk of by a series of calculations and hurried adjustments instead of by the vision and courage of faith. Life, in other words, has been thoroughly de-moralised—reduced from the moral to the merely material plane. And nothing will ever lift it back again but a bold and far-

been so speeded up by war that it had burst the moment the object of that emotion had been achieved and the strain loosened. In reality, is it not that we are witnessing a quick shifting from the highly idealized patriotism of war to the wholly unidealized and sordid basis of peace, which, to most people the world over, means a state in which they are given the right to pursue their individualistic careers as makers of money, and seekers of pleasure, without disturbance?*

In the scattering that has taken place, we find the forces to be more or less aligned as two distinct groups: On the one side those who possess wealth, or who employ labor; on the whole, they are averse to any serious changes in the present order. On the other side are the wage- and salary-earners, seriously affected in their dual capacities of producers and consumers. They demand a higher wage, and they are pretty generally receiving it, but in dollars only, for they, in common with their employers, have not yet come to see, except in scattered instances, that under our present system it is literally impossible to pay a permanent higher wage—one that will actually and permanently have a higher buying power. The thing cannot be done, and the crucial problem demanding solution today is that of wage stabilization, as the first step toward a really higher wage. And it is idle to talk about organizations without taking cognizance of this problem.

You can put the question fairly and simply by asking whether the American Institute of

reaching effort to '*re-moralise*'—to disperse the war-time mist of unreality and force men, in all classes (the so-called 'educated' not least), once more to 'see life steadily and see it whole,' lit up and coördinated by the moral and spiritual order. Sooner or later mere juggling with economic factors must stop: the degree of its success will itself defeat it, as it does this day. It incites men to believe in redistribution as such, and forget its relation to production. Bribery of the discontented cannot go much further. If a way out is still possible, it must be along quite other lines: in other words, it must be precluded by repentance—a shifting of our whole ground, a revolution of our outlook, comparable to that which took place for so many in August 1914. Our need is primarily, obviously, increasingly moral and spiritual. . . .

" . . . The State must itself abandon its secular attitude, avow its repentance, and start acting on faith. It must make moral recovery the first aim of government, and act to that end regardless of cost."—*Re-Moralisation, Faith Versus Fear*, by the Rev. Canon E. A. Burroughs, in the *Westminster Gazette* (London).

Architects is to concern itself more with the income of its members, or less. Eight per cent of the architects of this country paid an income tax last year, which is pretty good evidence of the economic status of the profession. Should the Institute seek to better that status or not? Should it go on making more laws or should it stop making law altogether? If it should make laws, what kind should they be? With what questions should they deal? And no matter what kind they are, will they not all have an actual bearing upon the economic aspect of the profession? Will they not affect the earning power of some, if not of all? You cannot get away from economics in organizational life, no matter how hard you try, and even though there lies at the back of all the present organizational movements, of which the press gives us fresh evidence each day, the crushing force generated by the sheer economic pressure of existence, it would seem that the time had come when we should no longer try to get away from it, ostrich-like, but that we should seek to understand that force in order that we may direct and guide it and not let it pass into something volcanic. Organizations, even of architects, should seek a knowledge of that force, for they will meet it more and more in their lives and in their practice.

The Executive Council of the Post-War Committee adopted some conclusions. They are, so to speak, tentative, and may later be modified or amended, after criticism and observation from the full membership of the Committee. The first of these relates to the Institute itself, as the existing national architectural organization and the Council's conclusions were these:

That the Institute should tend less and less toward dealing with the details of the business activities of the profession and more and more toward the formulation of those guiding principles which are universal to the profession, and toward a harmonizing of all professional relations. It should set up a Constitution along these lines leaving the by-laws to be developed by local bodies in accordance with their specific needs and problems.

In other words, the Council concludes that the Institute should cease its efforts to regulate the business life of its members and leave that work to local bodies. Symbolically speaking, it should set up a Constitution for the profession—a single document of aims and faiths, perhaps

—and then let the members of the profession make such By-laws, through local bodies, as they found best suited to their conditions of practice. Naturally it is presupposed that those By-laws would be based upon the Constitution, just as the laws of the several states of the Union may not be in conflict with the Constitution of the United States. This principle has never yet been wholly cleared up, it is true, in the minds of many people, for there are still adherents to the doctrine of States Rights. But whatever may be the merits of the principles involved, it is very evident that there is a considerable body of opinion in the architectural profession which does not acquiesce in the idea that rules for practice shall be the same for all parts of the country. The Council has considered the question with all the facts obtainable before it, and concludes that the American Institute of Architects should cease its functions of law-making, and confine its activities to the promulgation of professional ideals. But this, be it remembered, is merely a conclusion based on the sober judgment of those who have studied the question. It is binding, as a conclusion, upon no one, yet it is something to be pondered quietly by those who care.

The second conclusion of the Executive Council was this:

That state societies should include draughtsmen as well as architects and steadily work toward the creation of a vocational guild to include all those who earn their livelihood in the practice of architecture. That state societies should be organized independently of any Institute connection, and that there should be no restrictions as to holding office therein. That they at once, upon organization, should begin the establishment of relations with other local groups of technical men, trades and crafts organizations, in order that standards of practice may be formulated and that there may be developed a strong influence towards securing a higher standard in public work.

The state societies referred to are the bodies to which I have referred as one of the possible law-makers for their localities. The Executive Council concludes that state societies are the stepping-stones to a more democratic form of organization, that they should include draughtsmen as well as architects, and that they should not stop there, but work toward the idea of a guild, the membership of which would be limited only to those who earned their living in the practice of architecture. Why not? Has not the time come when we should cease splitting

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up and begin drawing together? And on what lines should people be so closely drawn together as along the line of their vocation—the thing by which they gain their livelihood? Not along the line of their special craft, but along the line of the whole industry of which they are a part, for their own welfare is indissolubly bound up in the welfare of the industry as a whole. Carried to its logical conclusion, this would mean a guild of the building industry, such as Mr. Cole gives us an inkling of in his article on the British building industry, in this issue, where all the members, whether managers or workers, participated in the government of that industry. Clearly, every industry is composed of many members, all of whom play their part in determining the standards and accomplishments in that industry. Architects do not represent the building industry, and its faults are not alone their faults. Contractors do not represent it either, nor do draughtsmen, or workmen. It is an intangible and irresponsible body, at the present moment, because no one alone is responsible and there is no collective responsibility. To me, it is easily conceivable that ultimately state societies should not confine their membership to architects, or even to draughtsmen, but that they should seek to create a tangible Guild embracing all who have adopted building as a vocation.

The Council even goes so far as to conclude that state societies should not be controlled from within the Institute—that they should be left free to work out their problems. This conclusion is essentially democratic, but at once leads to the question: “Suppose the state societies grow so large and powerful that they may destroy the Institute?” The Council does not believe that will happen, and that if it does, it will be because the Institute will have neglected the duty of harmonizing itself with the social and economic progress of the world. In the meantime, the Council concludes that the Institute has functions to perform quite as important as any it has yet undertaken, one of which is this:

That the Institute should set up machinery for the establishment of definite permanent affiliations between all national organizations in the building industry.

This is a specific recommendation for the consideration of the Institute, and is an elabora-

tion, on a national scale, of the guild idea, for if followed to its logical end, it would mean the ultimate establishment of a national guild of the building industry. But the seed for this must be planted locally, even though the national organizations may take steps. It is a problem of some magnitude, and yet though it once seemed hopelessly impossible because of the antagonisms of employer and employee, it seems less hopeless in view of what is taking place in industry today. And it surely must come, if the building industry is to render the service of providing good and adequate shelter for man and his activities. It is a subject of fascinating interest, and yet the next conclusion of the Council seems almost to outweigh it in fascination:

That the Institute should establish a direct permanent relationship with all technical bodies with a view to the establishment of common principles governing the professional relations, and that such an inter-professional relation should ultimately be expanded to a permanent league of vocations, into which there should be admitted every vocation which recognizes its functional social obligation of service.

“A league of vocations,” says the reader, “but why not a league of professions?” He likes, and rightly, the symbolic suggestion of the word “profession,” as one connoting an ideal of service to which he subscribes; but is it not true that the word “vocation” has an equally ideal significance, or that it may have such a meaning? And why should not any man call himself a professional if he has the professional attitude toward his work? At any rate, the word is debatable. So also is the idea of a league of vocations, or professions, if you will, and yet consider the possibilities. Suppose that the great professions could formulate a standard of professionalism, not alone for the purpose of adding inspiration to the ideals of the present-day professional man and of setting higher standards before young men seeking entrance into a profession, but also for the purpose of imparting some common understanding of the professional principle in the minds of all men and women, no matter what calling they followed. I confess that it is a supposition on my part, and yet the Executive Council of the Post-War Committee has seemed to recognize the fact that one little profession, all alone by itself, cannot put up much of a fight against the

encroachments of standards which do not harmonize with the professional idea. It has even gone so far as to propose that a preliminary conference be held for the purpose of considering ways and means of bringing such a league into existence and activity, and the Executive Committee of the Institute has approved such a conference. Evidently there are others who have suppositions, and faith to back them, which is a hopeful sign. And there are excellent reasons for believing that other important professions will look favorably upon the creation of such a league. Certainly the idea is full of tremendous possibilities, if only half of the suppositions are good ones. In fact, one might discount them down to ten per cent, if he were conservatively inclined, and still have to admit the possibilities for great accomplishments.

On the subject of registration laws the Council believes:

That the Post-War Committee recognizes the Registration Law as a step forward, if rightly drawn, in architectural education and progress, and recommends that all state societies study the Institute Model Law with a view to harmonizing therewith all registration laws now enacted or such new laws as may be sought; but the Post-War Committee wishes strongly to emphasize the point that such laws should not in any way be framed or used to exclude competent men from undertaking the design or erection of buildings, and that coöperation between architectural and engineering organizations is necessary in order to define qualifications for registration in the two professions.

It scarcely seems possible that there will be any dissent to that conclusion, but I have not the same feeling about the one relating to competitions. Can any conclusion on this subject ever be unanimous? And still, I doubt if one were ever put forward that had a better chance for unanimity than has this one:

That the Post-War Committee concludes, from the evidence that has come to its attention, that, under our present system of Federal, state, and municipal administration, properly regulated competitions offer the best safeguard to the public interest in the selection of a competent architect for public work, but that in the case of private owners, whether as individuals or corporate bodies, the competition is not in the best interest of the client, who should select his architect as he would choose any other professional practitioner. The latter form of selection offers the opportunity of direct contact between architect and client and should not therefore be the subject for competition. The Post-War Committee further concludes that nothing has been more detrimental to the establishment in the public mind of a clear knowledge of the

architect's function than the practice of architects in voluntarily offering to furnish plans and designs without compensation.

The Committee recognizes clearly the problem of the young man entering the profession and believes that that question is one for serious study on the part of the whole profession, yet it does not believe that the competition is the right method by which the young man should be encouraged to establish himself in practice.

It is true that we have to begin our conclusion about competitions with another one about our nation and our state and our city. We have to confess that they are failures as far as administration goes, and that we do not know how to secure an honest direct appointment of an architect for a piece of public work. But perhaps we also fail clearly to take account of our own jealousies in these matters. It is very difficult to smile cheerfully when the other fellow gets a public commission, for, in a democracy such as ours, there is a latent feeling that public work ought to be distributed, in some miraculous manner, so that every taxpayer would have a right to recoup himself, just as the voters in a small farming community take turns as road commissioner. I mention this, not because I believe that it has any great bearing on the conclusion of the Council, but simply to illustrate my own fear that no way of awarding commissions to architects, on public work, will ever meet a completely popular approval. But what is perhaps the most interesting paragraph in this conclusion of the Executive Council is that relating to the young man entering the profession. Here at least is a matter which has received far too little consideration at the hands of the profession. The young man has been allowed to enter the profession in whatever manner he pleased, and there are many who have contended that the young man had a personal interest and right in competitions as a means of securing commissions which would never be given to him as an unknown practitioner. The Council advances no recommendation in this matter, but it does go so far as to commit itself to the statement that it believes that competitions are not the way in which a man should enter the profession. In forming this opinion, it undoubtedly had in mind the fact that modern building demands an experience which cannot be possessed by a young man fresh from the school, and that winning a building plan and design does not constitute evidence

POST-WAR COMMITTEE

that the winner can see the building through all the trials of construction. But how should a young man enter the profession? That is a real question, important not only to the young man but to the profession as well. Unless he enters in the right way, he will enter in the wrong way, and in that case he injures the profession. And if you set about deciding in what manner he should enter you must be careful not to set up anything resembling a monopoly, obtained by keeping the number of qualified practitioners as low as possible, with a consequent greater volume of work for each. Few questions are more important to the profession than this, yet few have received less consideration.

The Council also discussed and took under advisement the appointment of the sub-committees to which specific items in the revised program will be delegated for further study. One of these committees was appointed to deal with certain aspects of education, as follows:

Principles of architectural education and their practical application.

The use of the architect's office as a continuation school.

Education in the elementary schools.

As for education of the public, I gathered the idea that the Council was convinced that the way to handle this problem was by beginning the education of a public which would not later have to be educated, as opposed to our present system of shooting boys and girls through schools and colleges and then forming societies for educating them after they are grown up.

But of particular interest to the architect and his progressive education in his profession is the question of using the office as a continuation school. Of using it thoughtfully, intelligently, systematically, not on the principle that men learn by contact, but that they learn

through interest. This was well instanced by one member of the Council who described the arrangement in his own office where all employees meet in regular discussion of all the work in progress; where questions are asked and reasons given; where one draughtsman explains what he is trying to do, and another is given the opportunity of sharing his experience. Men do not learn by grinding through one particular job, but by this very process of sharing experience, and of feeling a common interest in the whole work. The architect's office possesses opportunities for education which have never been properly mobilized, I would venture to say, without criticism or blame, simply because it is difficult for most men to become successful teachers, even though they be so inclined. But if a convenient method of using the office as a practical training school—and what ground could be better for the purpose?—could be put generally into effect, there can be little doubt of the value it would have. Never can we get too much emphasis upon the thought that men learn only through aroused interest. Never, also, will it be possible for graduates from architectural schools to dispense with the continuation school of practical experience. The task of the subcommittee on Education will be to discover, if it may, how these continuation schools may be made most helpful, all of which means a greater good for the profession at large and for the future of the building industry.

A little later, the Executive Council will issue an outline of the intended future scope of its activities. These, I opine, will be confined to certain fundamental aspects, the dominating importance of which has been indicated by the work of the Committee up to the present time, and covered in the conclusions dealt with in this article, which, be it remembered, is an attempt at interpretation, and has no finality.

NOTE:—On September fourth, the Executive Council again met in New York and completed its program for inviting other professional men to participate in the arrangements for the first inter-professional conference. It also elaborated the organization of the Post-War Committee by the creation of new main sub-committees and local State Committees; in the next number of the Journal it is hoped to publish an outline of the extended organization and the method by which it is proposed to continue the work.—EDITOR.

British Housing Notes

The Size of Towns

Writing on The Garden City Principle, in the *Garden Cities and Town Planning Magazine*, Mr. C. B. Purdom takes up the question of the size of towns, and says:

"The union of town and country means the establishment of some relation between urban and rural industry, and it is that which raises the question of size. What is the proper size of a town? Whenever towns have been studied that question has arisen and has always been answered. It is only in our modern civilization that it has been ignored. You will remember that Plato discusses it in the *Republic*, and ever and again returns to it. This was his answer, 'That the city be neither small nor great, but of a moderate extent, and that it be one city. I imagine,' says he, 'that so long as a city on its increase continues to be one, so long may it be increased, but not beyond it.' And in the *Laws*, if I may remind you, he gives a definite limit of 5,040 houses to his ideal city, and is at pains to devise a means by which the number should always remain the same. Aristotle, in the *Politics*, gives greater precision to the idea. 'First among the materials required by the statesmen is population, he will consider what should be the number and character of the citizens. . . . Most persons think that a state [and for state read city] in order to be happy should be large; but if even they are right, they have no idea what is a large and what a small state. All cities that have a reputation for good government have a limit of population. To the size of a state there is a limit, as there is to other things, plants, animals, implements, for none of these retain their natural power when they are too large or too small, but they either wholly lose their nature, or are spoiled. The best limit of the population of a state is the largest number which suffices for the purposes of life and can be taken in at a single view.'

"Why was it necessary to consider this question of size? There were physical, political, military, and economic reasons. The features of the site of the city had to be considered, and the limitations imposed by the sea, by mountains, or by marshes respected. Good government had to be provided for, and a population not too large for efficient governmental activity was desirable. The city had to be of such a size that it could easily be defended. Finally, the city must be able to supply itself with food. These four factors were studied by the Greeks and Romans for their own cities and in their colonies. They were observed in the Middle Ages throughout Europe. They have always been found to apply when towns have been seriously considered, and I believe that they apply today."

Ownership of Land

On the subject of the public ownership of land, Mr. Purdom writes:

"The second part of the (garden city) principle is the public ownership of the land. The actual form of that ownership is not exactly defined, though municipal ownership is implied. It is the public ownership of the land that confers the power of design and guarantees the result.

Moreover, it secures for public purposes the benefits of the increment in land value. I believe that our towns need few things more than the ownership of the sites upon which they stand. I am not sure that it is not more necessary than the power to town-plan their unbuilt-upon areas. They need the latter too, of course, and the ownership of that land as well; but if our existing towns are to be reconstructed in any sort of economic manner, they will need to get ownership of the land beforehand. There are few towns that do not stand in need of replanning, and there are few where replanning would not be immensely advantageous to existing landowners and a source of expense to the inhabitants at large. But in the new building that is to be done, and in the new industrial areas that will grow up, whether we provide for them or not, the land should be secured to the community before development takes place." . . .

"It is in this connection that the garden city principle is significant. It holds the field, I believe, as the only theory of town building suited to modern conditions that is yet in harmony with classic theory and our own English traditions. It is the one theory that is good enough to provide a working basis for the planning of the British Isles that our town planners demand. That such a basis is necessary is certain."

"Hitherto, house-building, like every other product of human industry, has been subject to the law of supply and demand; but today we are to build on a larger scale than ever before, and the houses will be distributed on no system at all. It must be obvious that this lack of principle cannot be endured. Our towns are already monuments of waste; how can we consent to add to that? We shall have to discover and apply a principle of distribution; or municipal housing, prompted by the central authority with its powerful impulse towards quantity, will land us into a state of confusion greater than anything that unrestricted private enterprise has been able to produce."

These things are all true in the United States, are they not?

Architectural Societies and Housing Schemes

The Manchester Corporation (England) approached the Manchester Society of Architects, asking them to take over the organization of their housing schemes—about half a dozen to begin with—and the following are the main points of the agreement between them:

Each scheme is to be placed under an architect as Chairman, who stands to the Corporation in the relationship of architect to client, and all business with the City Architect and Corporation Committee will be done through him. Under the Chairman are a number of architects proportionate to the number of houses to be erected under the particular scheme. The relationship of the Chairman and architects is that of Chairman and Committee. The chairmen of the various committees are members of a committee known as the President's Committee, which meets weekly and deals with such matters as the general approval of the work being done on each scheme, the

BRITISH HOUSING NOTES

allocation of fees, and the cases of architects who prove to be incompetent. The President's Committee is to be paid for this work and need not necessarily do any designing. The fees and charges are on the basis of the R. I. B. A. Scale. The Corporation deducts one-third of the fees, and for this they undertake the road work, the preparation of quantities, the clerk of works' supervision, certifying for payments and the settlement of accounts.

Further schemes are to be added as they come into operation. Already one other public body has approached the Manchester Society with a view to effecting a similar arrangement. This system of dividing up the work has the approval of the Local Government Board. The Leeds City Council approached the Leeds and West Yorkshire Architectural Society, and in the first instance asked the Society to nominate several architects for the position of advisory architect; from the list supplied an architect was appointed at a salary of £600 per year. His duties are to be responsible to and advise the Council on all matters relating to the housing schemes.

The Architectural Society was then asked by the Council to send in a list of qualified architects for carrying out the work; twenty-one were selected and the work is now in progress.

From this list a panel of six architects were appointed to assist the Advisory Architect in arranging the numerous details of the schemes. The architects are responsible to the Advisory Architect, who in turn is responsible to the Housing Committee of the Leeds Corporation.

The whole of the schemes are treated as one housing scheme and the remuneration is based upon the R. I. B. A. scale. The laying out of sites, the road works, and the clerks of works' salaries are paid by the Corporation and no deduction is made from the Royal Institute scale of fees.

The whole of the work (4,000 houses) will be apportioned amongst practising architects in the city of Leeds. Plans for 2,000 houses are now in course of preparation, and this portion of the work has been distributed between the twenty-one architects. JOURNAL OF THE R. I. B. A.

Parliament and Town Planning

The New English Housing Bill, to which the Royal Assent has been given, according to English press reports, contained a clause which provided that in all English towns having a population of 20,000 or more, the preparation of town plan should become obligatory after 1923. The House of Lords, with characteristic conservatism, rejected the clause. But the House of Commons stood firm, when the bill was sent back by the Lords, and reinserted the provision. Incidentally, this victory for the idea of sanity in town growth as against blind, sprawling disorder and chaos, is largely due to the determined efforts of the National Housing and Town Planning Council in urging members of the House of Commons to adhere to their original decision.

Central Consultative Board for Housing in the London Area

With a view to assisting County, Municipal and Local Authorities of the London area in the selection of architects for their housing schemes, the Council of

the Royal Institute have appointed a Central Consultative Board for the nomination of candidates qualified to undertake such work.

London County Council Housing Scheme

The London County Council, at its meeting on the 15th inst., approved the proposals of the Housing Committee for the provision of the first 10,000 dwellings under the Council's housing scheme within two years from the date of approval of the scheme by the Ministry of Health. The scheme as a whole provides for 29,000 new houses within five years of the approval of the scheme by the Ministry, with accommodation for approximately 145,000 persons.

The Committee in submitting the scheme for the provision of working-class dwellings estimated the total capital expenditure involved in the acquisition and laying out of estates and the erection of cottages under Part III. of the Act of 1890 as £23,560,000, or £24, 820,000, according to the number of houses (20 or 15) to be provided to the acre, while the cost of slum clearances and rehousing under Parts I and II of the Act is estimated at £5,370,000. The total expenditure under both heads may, therefore, be taken as approximately £310,000,000.

It is clear, they say, that under present conditions anything approaching an economic or remunerative rent cannot be expected. Indeed, on the information available, the annual deficit on the first 10,000 cottages is estimated at from £451,393 to £481,544, according to the number of houses per acre, which represents a deficit of from £45 2s. 9d. to £48 3s. 1d. a year per cottage. As regards the remaining 19,000 cottages the deficit is estimated at from £582,467 to £628,291, or £30 13s. 1d. to £33 1s. 4d. a year per cottage. To these figures has to be added the estimated annual deficit of £108, 527 on block dwellings to be provided for rehousing in connection with the clearance of insanitary areas, which, however, cannot be undertaken before some progress is made with the provision of new accommodation elsewhere. The ultimate annual deficit upon the completion of the scheme is estimated at from £1,124,172 to £1,200,142.—JOURNAL OF THE R. I. B. A.

NOTE:—Further comment on this extraordinary undertaking is offered in an interview published in the *Westminster Gazette*, as follows:

"London's (housing problem), which used to be discussed with academic calm, has assumed giant proportions during the war, and now presents some really startling aspects. The most alarming of the propositions on which the London County Council has to work is that every house built will be entangled in a heavy deficit. The deficit ranges from £48 to £33. This aspect was touched on in an interview which our representative has had with Dr. Scott Lidgett and Mr. Gautrey.

"Houses are to be let at the rents they would have been let at when the war began," said Mr. Gautrey. "They will cost more than twice as much to build, partly because of the increased cost of labor and materials, partly because of an improved standard of housing, with fewer houses to the acre. Five-roomed cottages, with land, drainage, layout, and erection will cost £1,000.

"The rental value of such a house, to pay its own way and repay loans, would have at least to be doubled.

"When the County Council shall have paid the equiva-

lent of a penny rate, £180,000, the Government undertakes to make up the deficiency under the Act. That deficiency, in the first set of houses to be built immediately, will amount to £48 per house—more than the rent actually received.

“It is indeed a conundrum—when are we going to get normal conditions, in which the tenants shall pay economic rents? Either the Government must pay the balance for all time, or you must have a progressive rise of rents. The Government has the idea that by a gradual increase in the rent, a shilling a week, the tenants will be paying economic rent in seven years’ time.”

“Both Mr. Gautrey and Dr. Scott Lidgett appeared to think that a certain amount of optimism tinged this expectation.”

The National Improved Housing Company, Ltd.

English newspapers contain lengthy advertisements of the National Improved Housing Company, Ltd. The consulting architects are stated to be Sir Aston Webb, and Mr. Maurice Webb. From the advertisements we quote the following:

“The Company will acquire from the Vendors the benefit and advantage of the undermentioned valuable rights, etc.:

“(1) The Rights and Provisional Patent of the ‘Condual’ (registered) System of Economic Concrete Construction. This System will enable the Company to erect houses much more expeditiously, and at a greatly reduced cost, as compared with the ordinary construction of similar types of houses. The ‘Condual’ System embodies the best features of concrete construction that have stood the test of long practical experience, together with certain improvements in material and scientific building recently introduced, and which, in the opinion of the directors, constitute a great advance on anything hitherto accomplished in concrete housing construction.

“(2) An agreement with the well-known firm of Messrs. Winget Limited, of London, Warwick, and Paris (contractors to the British, French, Italian, and Belgian Governments), to supply on most favorable terms their patent concrete block-making machines and mixers, the popularity of which is world-wide. The entire output of these machines and mixers was secured by the British Government and their contractors during the war.

“By employing these machines, a house can be built in a few weeks. The output of each of the machines manufacturing the ‘Condual’ concrete blocks is equivalent to about 10,000 ordinary bricks per day.

“(3) The whole output at a fixed price of a works manufacturing non-inflammable paint and varnish by a secret process, which has been largely used by the Government, the London County Council, and other public authorities. This composition has been found from experience to render timber and fabrics as fireproof as modern science can achieve at a less cost than any other similar material.

“(4) The valuable rights and title to ‘Cornerettes.’—(Registered Trade Mark 391,825 of 1919 and Provisional Patent No. 14,750 of 1919.) The ‘Cornerette’ is a simple device which can be fixed by anyone to the square corner which then becomes round on plan and entirely prevents foul and dirty corners at one-tenth of the cost of constructing round corners. The ‘Cornerette’ is equally applicable to

old as well as new buildings, and is made by a secret process, which makes it germ-proof, vermin-proof, and practically everlasting. The market therefore is unlimited, and the directors anticipate a considerable profit from the sale of these articles. Sanitation and the prevention of foul and dirty corners is inseparable from healthy housing. The spread of disease and infectious germs can be greatly obviated by all floor corners being made round instead of square as has been persistently advocated by medical and sanitary experts. At the Model Homes Exhibition recently held at the Central Hall, Westminster, ‘Cornerettes’ were amongst the labor-saving exhibits, and received the highest commendation from the press and public, and orders are coming in from all parts, in addition to which hundreds of thousands of these articles have already been specified at a large profit to the company.”

The Company offers for sale 740,000 shares at five shillings each.

Acquisition of Land

Commenting on the Land Acquisition Bill as passed by the House of Commons, the *Westminster Gazette* says the following:

“We look back to the land campaign of 1909, to the millions spent on obtaining a valuation of land in this country, to the fact that practically all the land has been valued for taxation and rating purposes, and we reflect that in the present House of Commons it was not possible to get more than seventeen votes for the principle that land taken for public purposes should be taken at taxation value. . . . The Liberals, under the leadership of Sir Donald Maclean, did what was possible to them to save the situation and to ensure that the community should have the use of the land at the value set upon it for taxation purposes. The Government clings to its shibboleth of ‘market value.’ To that there can be only one answer. The market value should not differ from taxation value. The State cannot have one value for land when it collects its dues from the owner, and another and higher value when the land is wanted for definite and urgent purposes. We are all standing amazed at the effect of adding £60,000,000 a year to the value of coal. If yesterday’s decision of the House of Commons adds but 10 per cent to the value of land, it is a gift of at least £600,000,000 to the landed interest of the country. And he would be an optimist indeed who believed that the effects of this Bill would be kept down at a 10 per cent rise in value.”

NOTE:—In a country called upon to support such a debt burden as Great Britain’s, with a military and naval expenditure for the coming year, with no war on hand, of \$2,500,000,000, or something like six times its normal pre-war appropriation, with an internal situation by no means rosy, and with a general recognition of the fact that only a greatly increased production can save the day, one cannot escape putting the query: Why place this extra burden on production by raising the cost of housing, and thereby the cost of everything else, for the benefit of the non-producers. Their profit must be shorn off of the profits of production, to the loss of the workers, the manufacturers, and the nation itself. A great jurist once said: “England is always late, but never too late.” But just how late can she be? EDITOR.



SAMOS

After a Photograph by E. H. Lowber

Spanish Abbeys

By GEORGIANA GODDARD KING

Photographs by E. H. LOWBER

THE great abbeys of Spain have more than a thousand years of splendor behind them, but they stand lonely today, desolate, often ruined. Whereas the Dissolution of the Monasteries, in England, in 1535 and thereafter, resulted chiefly in the transfer of wealth, both real and personal, from great lords spiritual to great secular lords, and the abbey churches were often turned into cathedrals, in Spain the process was deferred until 1835, and accompanied by actual destruction. What England had to bear from Puritans was in some sense orderly, the work of men under discipline; what Spain underwent was the fury of an insensate mob, and the Liberals who unchained this power were too few, or too indifferent, to control it. The monasteries which had been growing richer steadily throughout the Renaissance, and under the régime of Jesuits and Bourbons, had raised, unaware, a frantic

and superstitious hatred under which they fell. In the ruin wrought by the Revolution in France there was an almost sacred fervor; the phrases of the Psalms and the Hexateuch describe the destruction of the Abominable Thing; kings and priests were to be done away with and all that thereto adhered. The ceremonial resumption by the state of what had been the people's took more than a hundred years, and the work is not quite done yet, but the French republic has long since devoted to public uses what remains of Cluny and Cîteaux, Fontevrault and Prémontré. In Spain, the great convents that were sacked and burned eighty odd years ago are used for parish churches, are sometimes restored as national monuments, or are dropping to bits, the prey of stout saplings and enormous vines. And there seems no remedy: the government is very poor; the parishes are poorer. At Carboeiro, a thriving little grove is rising on the

chevet and drives its roots deeper and swells them thicker every year between the cut stones. At Rivas de Sil, a piece of vault has lately fallen in the greatest of the cloisters, and now every winter will cost a section or a bay.

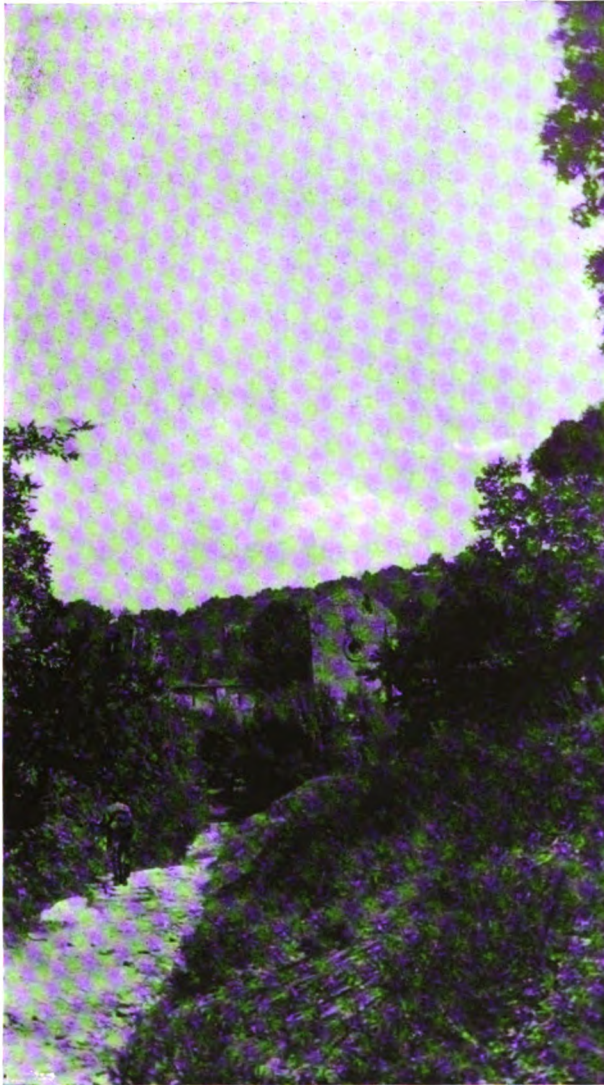
It is customary to say that in Spain the church is rich and the people poor, but that needs

they are irresponsible; they are illiterate; and they are as indifferent to everything but wealth and power as are the great railways, or the steel mills, or oil-vendors in this country. They may buy painted papier-maché saints, and vestments embroidered by machinery, for their women-haunted churches, but they will not spend a dollar to save the lonely ruins where a dozen shepherds and husbandmen have gathered early on Sunday to hear a mass for eight hundred years and more.

Yet Spain is full of these wonderful forsaken abbeys, perched high among jagged rocks or deep embosomed in leafy dells, or firm-seated and well-walled in the wide river valleys of the domain of Aragon. A few only can be noted here, and of these some no more than named; two among the mountains of Galicia, S. Pedro and S. Esteban; two more sturdy Benedictine foundations in the west, Carboeiro and Caracedo; and in the east the Cistercian convents of Veruela and SS. Creus; lastly, the all-unvisited, shabby splendors of Samos. Not one of these lies less than two hours from the railway; in the four latter cases you may drive or motor; in the first two you must climb on foot for an hour at least straight up the huge flanks of the mountain.

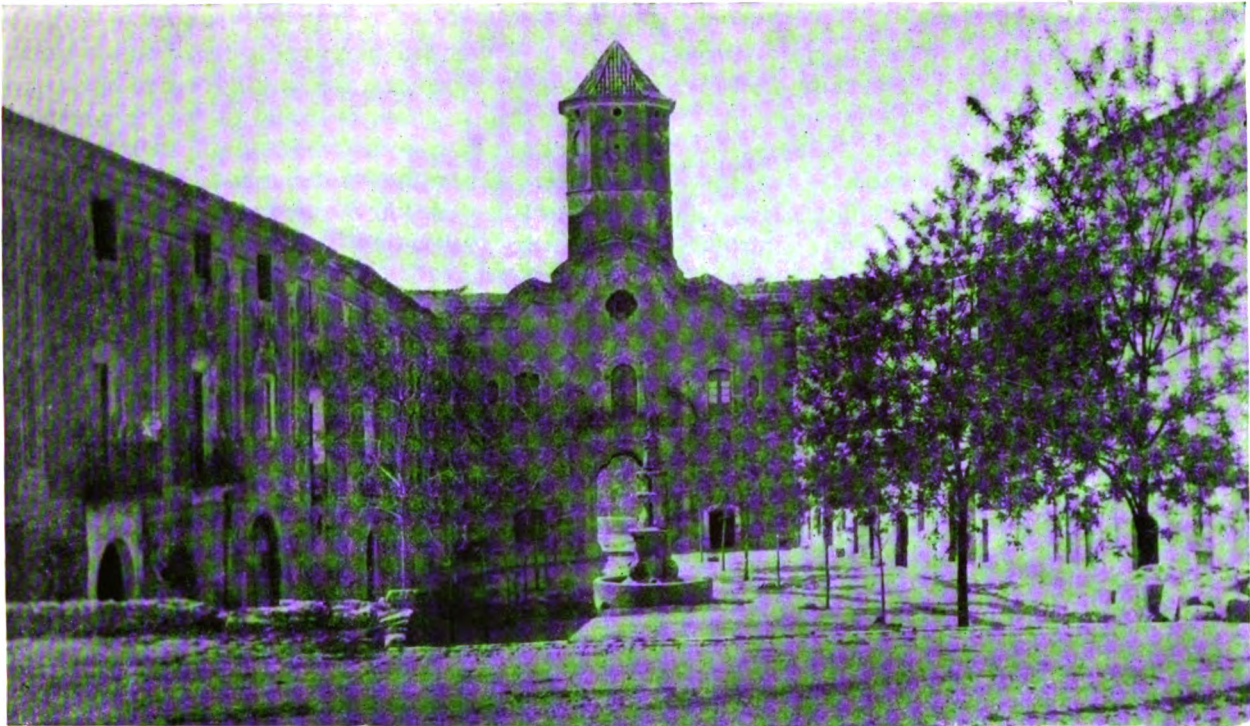
Benedictines built in the granite mountain-side, Cistercians in the fertile river-valleys, Carthusians on the lonely peaks; that saying holds true, even in Spain. Benedictine building is Romanesque; Cistercian, early Gothic; Jeronymite, baroque; that is true only with limitations, for the currents of thought and feeling moved sluggishly in Spain, and the two Orders, one in decline, one ascendant, employed with variations, a mingled style,—that which we learned in France to call transitional, because it contains elements of both the old and the new. The building of Cluny, the building of Cîteaux, supplied the models for monastic architecture for five centuries, and the great Spanish *chantiers* had more influence in determining decorative elements than structural.

S. Pedro de Rocas is a cave, hollowed out in the rock of a serrated crest, a cavern with two lower wings in some sort of semblance of a nave and aisles, ending in semi-domes; there is a stone slab genuine and unquestioned that preserves the names of seven good Christians and the date 573. It is bordered with such a carved



S. LORENZO DE CARBOEIRO
After a Photograph by E. H. Lowber

explanation. The cathedrals are very rich in treasures, and the chapters sell these, quietly, undetected; but the revenues are somewhat restricted. It is the Jesuits and the Frailes who are rich. In spite of certain laws which have never been repealed, the Congregations in Spain hold enormous wealth as corporations;



SS. CREUS—CATALONIA
After a Photograph by E. H. Lowber



THE APSE OF SS. CREUS—IN CATALONIA
After a Photograph by E. H. Lowber

twist or rope-pattern as we find in the Asturias. In the twelfth century, doorways or entrance-arches of masonry were fashioned,—one of which is carved with a good leaf—and a wide structure was added, westward, which serves as ante-chapel and presbytery both, the low, damp grotto, with its dateless altar, being more fit for a curiosity than for devotion. Two tomb-recesses are hollowed in the rock wall of this, whereon lie effigies, one above the other, and the convent bell-arch is reared upon a huge boulder outside. This was one of the monasteries

with a wonderful vista opening at times upon mountain distances, till through steep chestnut groves and over rocky trails they emerge upon the grassy square in front of the church. The builders were more concerned with level foundations than with fine prospects, and the convent buildings tend to look inward, upon the three cloisters and other gardens and garths, and forget the granite and the chestnut, the golden green of the tree-tops and bluish grey of sky, which are all the outer walls command. This, doubtless, was just such a hermitage as S.



THE CHAMBER VAULT AT CARRACEDO
After a Photograph by E. H. Lowber

called hereditary, belonging to a great family, like a farm or a mine, which were abolished or died out in the eleventh century.

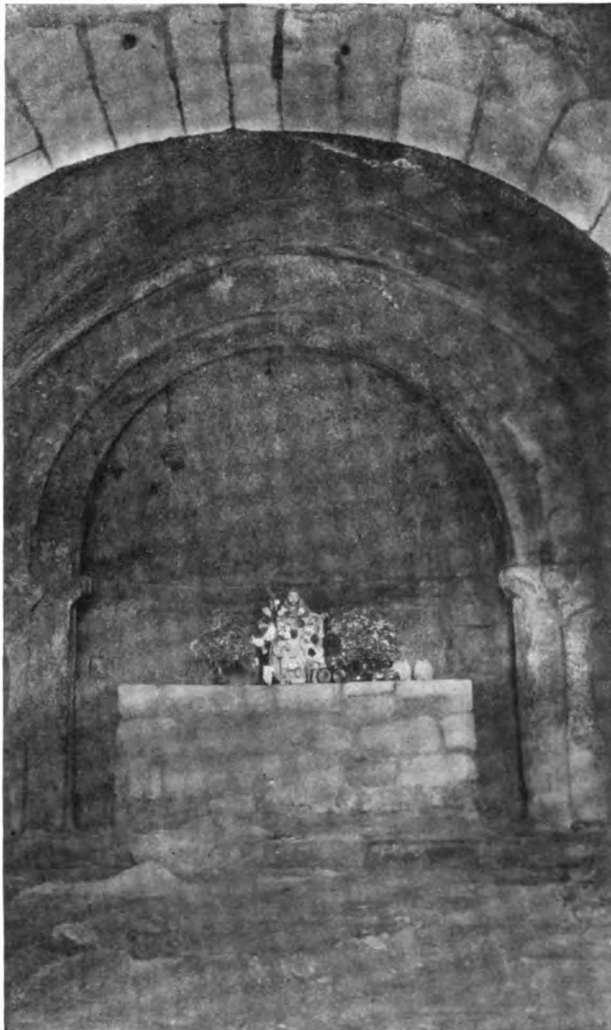
There may be a mule-track across the mountains from behind, that the parishioners use, but the way that travelers visit S. Esteban de Rivas de Sil is to get down at the way-station called by that name, descend to the shaley bank and shout for a ferryman, climb the other bank and go on climbing, among fern and presently among oak woods, around one spur of the vast hill and along the flank of the next, past pinched vineyards and starved garden patches,

Peter's among the Rocks, if S. Martin of Mondoñedo really founded it in 550. It was rebuilt by a group of monks who wanted somewhere that they could feel safe, and nine bishops are counted among those that ended their days in quiet there. Finally, in 1295, the abbot and monks asked concessions of Sancho el Bravo which enabled them to build a church in a pure transitional style which recalls outlying Cistercian. The history of the abbey has been published more than once, by Florez in "España Sagrada," by Murguía in his Galicia volume; and the present writer has it now in hand, the

SPANISH ABBEYS

immediate intention being only to note how S. Peter and S. Stephen alike have their foundations upon the holy hills.

Contrary to Benedictine practice, S. Lorenzo de Carboeiro, though seated rather like a lesser Durham, directly above a stream, occupies fat land. To go there, travelers must take the Orense coach from Santiago, descend at Bandeira, and either hire the one mule of the place or walk four or five miles. Thereafter the present writer enjoyed the hospitality of an English engineer at the mines two or three miles beyond. The church was founded in 1171 for the third time at least; it would seem that the original hermitage was replaced in the eleventh century by a cross church with five parallel apses, where-

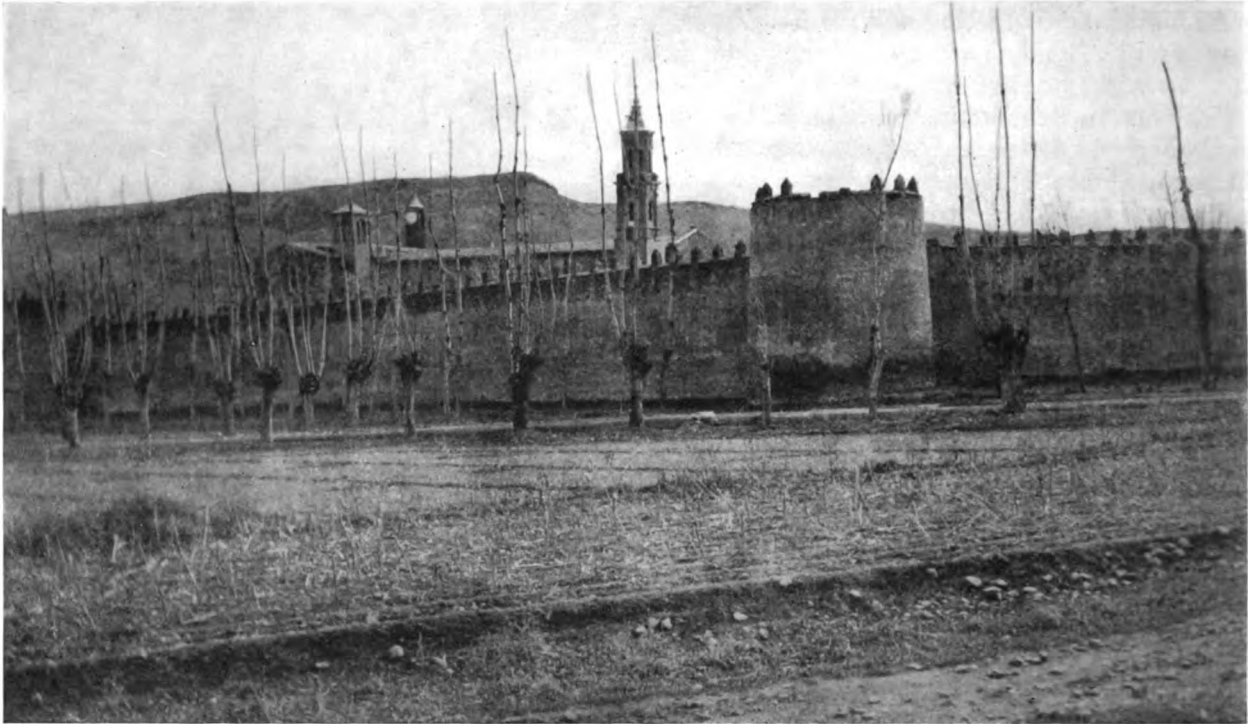


S. PEDRO DE ROCAS
After a Photograph by E. H. Lowber



S. PEDRO DE ROCAS
After a Photograph by E. H. Lowber

as the present has, besides a pair of little apses that open from the transept arms, a magnificent ribbed ambulatory and three chapels that, like certain French provincial ones, span much more than half a circle. The barrel vaults of transepts and nave have fallen, and whatever crowned the crossing, with the ribbed vaults of the aisles, but the walls are standing yet for the most part, though in a wilderness of underbrush. At the western door, through birchen twigs and tossing creepers, may be made out the Compostellan array of four-and-twenty Elders around the archivolt. The south door was never quite carved. Under the eastern part lies a crypt corresponding, sustained by



VERUELA

After a Photograph by E. H. Lowber

strong squat piers. The nave consists of three bays only, not so much by reason of the narrow isthmus above the Deza stream, as probably because the money was exhausted. In some sudden access of wealth and influence, Carboeiro made a glorious beginning, and then petered out, and was content to stop up the west end with an imitation from the nearest *chantier*; the apse, on the one hand, being not the least like anything at Santiago, but the influence of the great Metropolitan sanctuary asserting itself on the other hand as time went by, here, as everywhere throughout the region.

The style of Santiago was of the elder age, strong rather than delicate, racy rather than austere, carving lions oftener than water-cress, and sphinxes instead of knots. The Cistercian is reformed and scrupulous. S. Bernard was down on *fabliaux* and the capitals alternate leaf-forms with *entrelacs*, Frankish with Mozarabic elements. Typical Cistercian carving in all its purity, as the Spaniards understood it, appears in the chapter-house at Veruela. That is the mother-house of Aragon, the oldest in the east, founded in mid-twelfth century. About the abbey the ancient walls still rear their battlements, but Jesuits are in possession.

They may have some tinsel and trumpery chapel of their own, for their seminarists, within the *clausura*, but the church languishes, stripped and desolate. Even SS. Creus, in Catalonia, though unoccupied, seems less forlorn. The carving and ribbing of the ambulatory chapels is strongly Romanesque, very Burgundian, and far more forcible than anything at Carracedo, but in the *chevet* and the crossing piers the forms are attenuated, with an approach to the Cistercian style.

How far that style may be from what we associate with the white monks, with Pontigny, Fossanova, and Veruela, will appear on inspection of the detail in a chamber above the chapter-room at Carracedo, in Leon. The foundation there was venerable, the site was lonely; the style is provincial, irregular, and in parts imperfect.

SS. Creus, in Catalonia, is perhaps the most enchanting of Spanish abbeys and certainly the most accessible. It may be reached in a few hours from Barcelona. The Royal Abbey of the Holy Crosses was finally established in 1169, in a place fertile and yet aloof from towns and men. Building went on there pretty steadily for a long time, so that, for instance, the chapter-room and foun-

SPANISH ABBEYS

tain-house are in the same pure early style as the nave, while the cloister in which they are set is lush fourteenth-century work, due to Jaime II and Blanche of Anjou. The Catalan bars and the French lilies are there to testify. Of the exquisite palace chambers built to house visiting monarchs, an earlier article in this series has already spoken: of the cloister tombs and their record of the great nobility of Catalonia, it would take too long to speak, and of the royal tombs in which, like reliquaries, before the high altar, are enshrined the conquering kings of Aragon, inheritors in Italy of Greek and Saracen. The forecourt like a city square, where guests were lodged, now houses tenantry, and the traveler who would sleep in the tiny village outside may hear nightingales all night, and, between, the rushing water below and the rustling poplar trees; then, in the early day, watch mists unveiling the square battlemented east end of the church and its serried cypress trees. All styles still figure in the enchanted whole, without disharmony.

There is only a single effect at Samos, in eastern Galicia. The vast domain with its hills

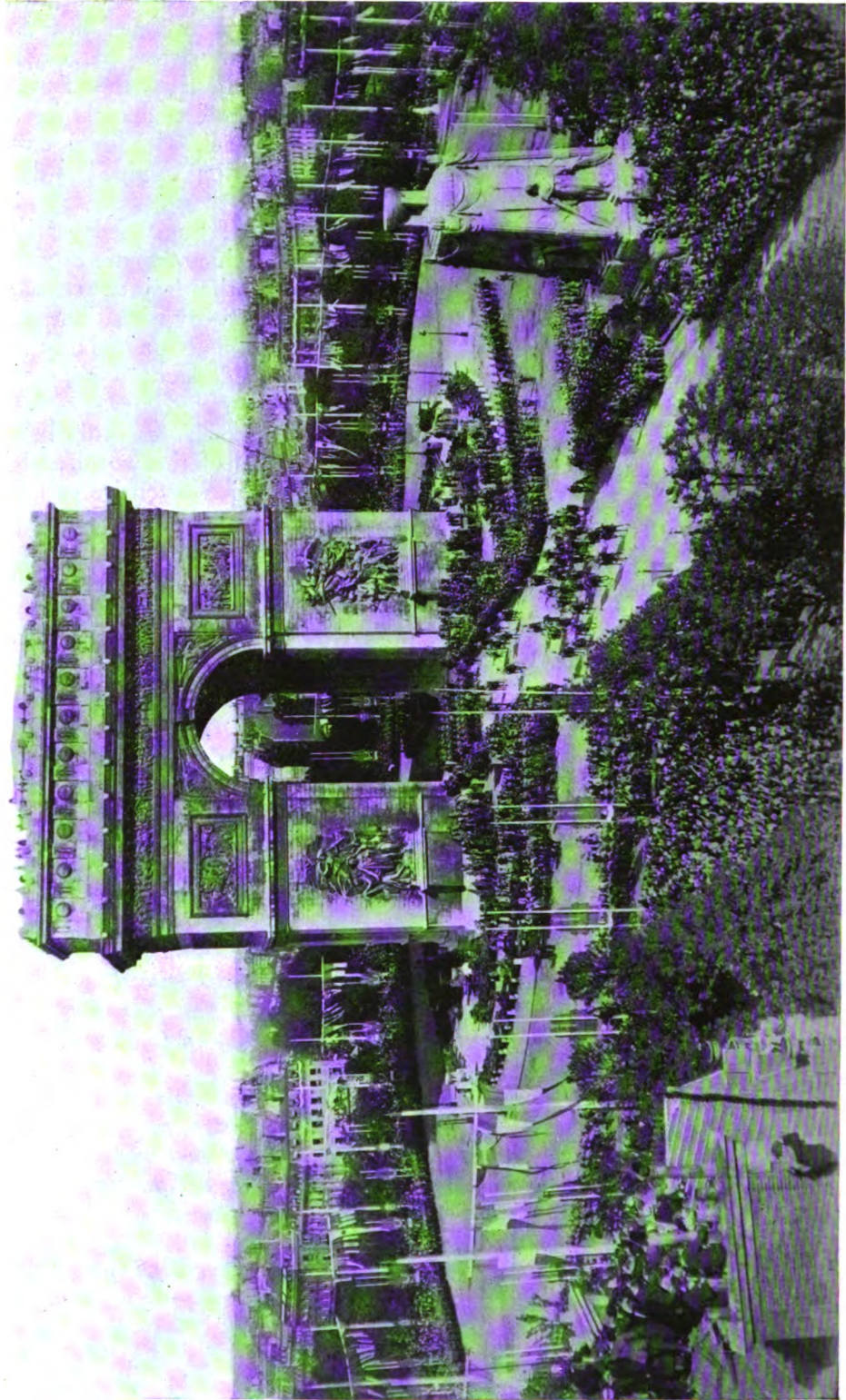
and granges, its streams and chestnut and beechen groves, is still enclosed with ivied walls that were once but the innermost cincture. On the narrow bank between the abbey church and the river that flows thereby, stands one of the oldest chapels in Spain, dedicated to S. Michael, without a carved stone or a shaped moulding to give it a date or a style. It tells no more than a skeleton. In the greatest building age of Spain, the early thirteenth century, a church arose there, sister to Leon and Avila, and the fashion passed and the church was done away with. The present edifice is baroque, vast and undeniably noble, with a circular domed sacristy that would glorify a palace. No other style so inspires, no other so expresses, the conscious pride in possessing all the kingdoms of the world and the glory of them, the emotion of entire satisfaction with the present and the future *in saecula saeculorum*. What Samos is still, not fallen though forgotten, that once were all the rest, and the enormous restoration which is Ripoll, and the exquisite ruin which is Arlanza, and the desolation and dust which is Sahagun.

Lines to a Child That Danced

*Ah, gentle child, from what mysterious source
Comes sense of rhythmic movement so alluring;
Who are th' invisible friends to whom you nod
And almost speak, as gesturing you tread
Quaint patterns of the dance across the floor;
What chords of harmony are struck within
Your soul, to make you measure time and space
With swaying form and sweet unconscious grace?*

*How comes it that for you emotion finds
Expression in a swiftly gliding step,
An instant's pose, a lilting whirl, that makes
Your life seem vibrant with some life unseen?
Have you a heart atune to fairy tones,
Inaudible to ears that only hear
The sounds which seem to guide your tripping feet?*

—W. R. B. W.



THE REVIEW OF THE ALLIED ARMIES—THE ARC DE TRIOMPHE DE L'ÉTOILE ON JULY 14, 1919

L'Arc de Triomphe de l'Etoile, July 14, 1919

By JEAN-PAUL ALAUX

ON July 14, by a radiant and unforgettable morning, amid the fanfares of trumpets and the almost delirious cries of an enthusiastic crowd (the event is said to have been witnessed by seven million spectators), the Arc de Triomphe witnessed the defiling of a victorious army, worthy of this grandiose setting. During more than two hours the great arch echoed the beating feet of battalions led by the generals of the great war; the tattered standards spoke the fury of the combats through which they had passed and which have already become a part of the legend of France. So epoch-making an event makes it worth while to pause a moment to recall the story of the Arc de Triomphe de l'Etoile, which was, during those few memorable hours, the very symbol of victory.

The arch was built by order of the Emperor and to the glory of the Grande Armée. The decree bears the date of February 18, 1806, and one cannot overpraise the grand conception of the Emperor who wished, on the axis of the Louvre, the Tuileries, and the Place de la Concorde, to add to so many other monuments, this arch, at once colossal and yet so simple that one may trace its lines with a few strokes of the pencil. From this center radiate, star-like, the twelve great avenues. It is, in its grandeur, worthy of the great epic it commemorates—worthy also of our own, which crowns its history with such a victory.

The architect, Chalgrin, to whom is due the design, directed the construction of the arch up to the cornice of the pedestal. On his death in 1811, Goust carried on the work as far as the impost of the great arch. We are in 1814! Work was suspended until 1823, when, the Duc d'Angoulême having won a brilliant success before Cadiz, it was decided to resume the construction. Goust continued his work under the guidance of a commission of four architects: Fontaine, Debret, Gisors, and Labaire, and the Arc de Triomphe was carried to the first course of the architrave of the entablature. Huyot, the third architect, built the grand entablature. On July 31, 1832, a fourth architect, Blouet, was commissioned to finish the work without delay.

The solemn inauguration took place on July 29, 1836, thirty years after the laying of the corner-stone. The Arc is 152 feet high, and the rectangle of the base is 137 by 68 feet. The opening of the arch is 90 feet high and 45 feet wide. One finds, in the archives, that it cost 9,651,185 francs and 62 centimes, which proves that the architects of its day took no liberties with exactitude!

The Arc de Triomphe, as all the world knows, is admirably situated at the culminating point of the Champs Elysées which rises gently from the Louvre to the Place de l'Etoile. Its orientation is east-west, and it has been remarked that on the 20th of May the sun appears to set directly under the arch, as one looks down the Avenue des Champs Elysées.

Its construction, if there had been no restrictions im-

posed on the surrounding buildings, would have entirely failed in effect, but structures within 150 meters cannot exceed 20 meters in height, and thus the Arc, the height of which would be insignificant amid a jumbled and unrestricted sky-line, seems really immense. Here is a splendid architectural demonstration of the effect possible by a studied and controlled contrast.

Unhappily, a disagreeable surprise was reserved for the friends of Paris, when, fifteen years ago, the roof of the Hotel Astoria made its appearance above the sky-line, at the corner of the Champs Elysées and the rue Presbourg. Recourse was had to the law, but under a decision similar to that in the Merchant of Venice, it was decreed that the roof might be cut down, but not by an inch in excess! Briefly, the roof remained—so much the worse for the purists. In drawing up the restrictions it had been forgotten that they also should apply on the streets behind the Arc!

Paris, following a law that seems common to cities, grows westward. Thus it is to be hoped that the Avenue de la Grande Armée will some day mark the finest part of Paris, and that at the *rond-point* of Courbevoie, beyond the Neuilly bridge, there will rise another great architectural composition—perhaps the monument commemorative of our great war. The discussion is open!

But, to return to the Arc, let us look for a moment at the decoration. At the foot of each of the four great piers are colossal sculptured groups. The most celebrated—the only popular one—is that of Rude representing the Departure. It is crowned by a majestic winged figure—the Genius of War. She cries "To Arms!" and one even hears the singing of the Marseillaise, so skillful was the chisel of Rude in giving to his work life, verve, and impetuosity. Seeing this group, one feels that France rises as one man to repel the invasion. From the little child to the aged grandfather—all are erect, arms in hand, carried away by the Marseillaise. It happens here, as at the opera, where the group of dancers by Carpeaux so eclipsed all the others that no one speaks of them or even knows what they represent—so instinctively does the eye turn to the group at the right. Yet the three other groups are well worth while. That of Cortot represents Triumph: the other two are by Etex; one represents Resistance, the other, Peace.

Above the sculpture of Rude is a bas-relief representing the funeral of Marceau; over the group by Cortot is another bas-relief, the battle of Aboukir. On the western face are two bas-reliefs: the passage of the Pont d'Arcole, with Napoleon, flag in hand, at the head of his troops, and the taking of Alexandria with the figure of Kléber wounded. On the sides are also two battle bas-reliefs: Jemmapes and Austerlitz.

The main frieze, facing the Louvre, represents the Departure of the Armies; on the opposite face, their return. On the shields which ornament the attic story, on the interior, are inscribed the names of thirty victories. Not

content with this number, which would have seemed very meager, after the great epic, there were added the names of ninety-six memorable sieges. These were classed according to the four points of the compass, and, in order to prevent any jealousy, forty-eight were selected from the time of the Republic, and the other equal number from the imperial epoch! But, not yet content, and in response to public agitation, the number of ninety-six was increased to 168. And then it was found necessary to celebrate the names of the generals, marechals, commanders, of which 384 were inscribed, among whom were several colonels who had died gloriously on the field of honor. But this figure again seemed too small, especially as many heroes had been neglected, among them the father of Victor Hugo! Thus there were added a further 641 names.

On April 1, 1810, when the Arc had just begun to lift itself above the earth, Napoleon had the idea, in order to make gay the entrance of Marie Louise to Paris, of improvising a scaffold and of covering it with painted canvas, so that she might see what the monument was to be when completed. In 1824 the Duc d'Angoulême, returning from Spain, defiled at the head of his troops through the still unfinished Arc. On June 4, 1837, the Arc having been then finished for a year, the Princess Helène passed through it in procession. On December 15, 1840, the ashes of Napoleon passed beneath the monument he had decreed, and the chroniclers of the time indicate that this was a joyous and sumptuous evocation of our national memories. The ashes were taken to the Invalides, to be deposited in the famous tomb where they still rest, before an immense crowd which stationed itself at every vantage point, in spite of the bitterest cold. The trees of the Champs Elysées were covered with human beings—the hawkers sold newspapers, programs, souvenir books, images of Epinal, and curious little copper vases, funereal in design and adorned with crepe. People drank coffee and hot punch. The Emperor's dream had been realized, for in his will he

had written: "I desire to be buried on the banks of the Seine, amid that French people I have so much loved."

On August 3, 1842, the Arc witnessed the funeral of the Duc d'Orleans, and on April 20, 1848, the revolutionary government distributed, at its foot, the flags of the Garde Nationale, and the Grande Armée, amid great enthusiasm. The last public function for the Arc was the funeral of Victor Hugo in 1885, and to whom could the Arc have offered a more worthy setting at such a moment than to the great popular poet, he who had sung so well the glories of the Grande Armée and of the Emperor? The catafalque had been designed by Charles Garnier, who had also conceived the idea of entirely shrouding the Arc with a black veil. The occasion attracted an immense gathering of those in whose thoughts were united the memory of Victor Hugo and of Napoleon. And, in this connection, may I not cite the verses of the poet in which he evokes—what we all hope may be distant—the ruins of Paris? Three monuments remain amid those ruins: Notre Dame, the Vendome column, and the Arc de Triomphe de l'Etoile; to the latter Hugo addresses these words:

"Quand des toits, des clochers, des ruches tortueuses
Des porches, des frontons, des dômes pleins d'orgueil
Qui faisaient cette ville aux voix tumultueuses
Touffue, inextricable et fourmillante à l'oeil,
Il ne restera plus dans l'immense campagne
Pour toute Pyramide et pour tout Panthéon
Que deux tours de granit faites par Charlemagne
Et qu'un pilier d'airain fait par Napoléon,
Toi tu complèteras le triangle sublime!"

July 14, 1919 may become the most famous date of all for this great national monument, for it saw the Allied troops of the great crusade, united by the same thought, pass beneath the arch, sharing with the innumerable multitude of spectators the profound conviction that they had won the most glorious victory of all time.

Paris, July 20, 1919.

American and British Schedules of Charges for Architects' Services

THE Institute of Scottish Architects, like the Royal Institute of British Architects, has just promulgated a "draft" of its "Terms of Remuneration and Conditions of Employment of Architects." In both cases the basic charge named is 6 per cent of the total cost; beyond this point of similarity, a comparison of these two documents with that of the American Institute of Architects raises some interesting points for consideration.

In the first place, the A. I. A. schedule is careful to state that under certain standard conditions 6 per cent is "the minimum charge." The R. I. B. A. document says that, for work over £2,000 "the percentage is to be 6 per cent." The I. S. A. document says it "shall be 6 per cent." Do they intend to prohibit higher charges for any work whatever that is above this low limit of cost? Must an architect charge only 6 per cent for houses of \$15,000 or

even \$30,000 or more? Unless an architect does few such at a time, and does most of the work himself, he will have little or nothing left out of his commission for net profit on that basis. The practice of cutting rates to get work is to be discouraged certainly. Is there any danger in permitting an architect to ask more than a fixed minimum in order to meet his costs of production and have a profit remaining with which to pay for the high costs of living? In this country we have never thought so. One wonders if the English and Scottish schedules are intentionally as mandatory as they seem.

Payments of the fee for partial service differ also. For preliminary sketches we prescribe 20 per cent of the fee while our cousins prescribe 25 per cent; and for sketches, working drawings, and specifications we call for 60 per cent, while they call for 66 $\frac{2}{3}$ per cent. These are not great differences. We, however, provide that, even if the work

AMERICAN AND BRITISH SCHEDULE OF CHARGES

goes forward to completion, the architect is to be paid his 20 per cent upon completion of the preliminary sketches, and the further amount, up to 60 per cent, upon completion of working drawings and specifications. Both the English and Scottish schedules prescribe that the architect gets no payment until a contract is "entered into or order given for the works." This is a financial hardship long since discarded by the A. I. A., and one that it seems impossible to justify. The Scottish schedule, strangely enough, provides for a payment of 50 per cent of the fee at this time, when the work is going ahead, but $66\frac{2}{3}$ per cent for the same work if the project is abandoned. One wonders why.

Regarding the ownership of drawings, the following clauses in the Scottish schedule are of interest: "Clause 4 (g) All drawings, specifications, and other contract documents, excepting as provided for in Clause 4 (NOTE:—Probably misprint intended to read, "Clause 5") shall remain in the architect's custody, but the employer shall be entitled to a plan, or plans, showing the drainage system."

Does this really mean what it apparently says—that the owner is not permitted to have in his own possession any of the contract documents, except a plan of the drainage system? It would seem as if the American and British statements, that the documents are *the property* of the architect, cover the idea better.

In Clause 5 the I. S. A. schedule provides that where the work is abandoned "the design or sketch plans and drawings shall, if the employer so desires, become his property after payment of the fees," as provided for such cases. This seems strangely illogical, since the employer is specifically denied possession of the drawings of a building he has actually built. It would seem as if these conditions ought rather to be exactly reversed.

Some matters are included in the English and Scottish documents which with us are covered in the "General Conditions" of the A. I. A. Standard Documents. We there provide that the architect shall furnish to the contractor such copies of the drawings as are reasonably necessary for the execution of the work. The A. I. A. schedule of charges does not specify how many copies the architect should furnish under his fee. Both the British and Scottish documents call upon him to furnish to the

contractor only one set of all drawings. Who pays for the other sets that are required?—the owner or the contractor? Does the contractor know when he estimates his costs?

They also provide that the architect is empowered to act on behalf of the client in constructional emergencies. Our present Standard Documents have eliminated this rather dangerous clause, leaving the responsibility for action in the field where it rightly belongs, on the construction manager, that is, the contractor.

There are many matters found in the R. I. B. A. schedule that are peculiar to British conditions, such as taking out quantities, estimating dilapidations, valuing property, negotiating the settlement of claims under acts for the compulsory acquisition of property; for negotiating the sale of estates and property, or *introducing a purchaser*, and advising as to value if required. Many of these have a pleasant Old-World flavor about them which adds interest to our perusal of the document.

The R. I. B. A. schedule also provides a scheme of payments for the laying out of housing developments based on a charge per acre: 2 guineas per acre for the first 25 acres; 1 guinea per acre for the next 275 acres; 5 shillings per acre on the remainder, with a minimum charge of twenty-five guineas. This is for merely a general plan based on existing maps. For carrying out the work, with usual complete service, the charge for road and sewer work is 5 per cent of the cost, and for the buildings it is 5 per cent on the first twelve houses, $2\frac{1}{2}$ per cent on the next sixty, $1\frac{1}{2}$ per cent on the remainder. The fee for laying out grounds, planting, etc., is apparently an extra charge to be arranged for.

It would seem as if the above basis would prove to be merely a general guide, as most housing developments would have some special buildings and other individual elements needing special consideration, and with houses of different sizes and costs the determination of the cost of "the first twelve houses" may well prove somewhat difficult.

A comparison of the three schedules leaves one with the impression that the fewer special cases one attempts to prescribe for the better, and that the brief clauses of the A. I. A. document seem to answer pretty satisfactorily as a guide to practice, at least in this country.

WILLIAM STANLEY PARKER.

American Housing Notes

Municipal Housing in Pittsburgh

Pittsburgh has in force a graded tax law which penalizes vacant or unimproved property for the purpose of stimulating the use of such land. At the same time, the city itself owns about 2,000 vacant lots, acquired by sheriff sale or otherwise. On this property, to some of which the city has had title for forty or fifty years, it collects no taxes and has made no improvements. Very properly it has been suggested that this land might be used to help relieve the housing situation. In response to an inquiry from the City Council, the City Solicitor has submitted an opinion in which he holds that the construction of houses on municipally owned property, at the expense of taxpayers, for the purpose of renting these houses and deriving a revenue,

no matter how small, is not a function of municipal government and would be unconstitutional. However, he indorses, as legal and desirable, the proposition that the city sell building lots to individuals who would agree to build homes thereon, submit the plans and specifications to the city council, and agree that for a period of years the rent asked would not exceed a stipulated price, in consideration of which the city might sell these home sites at a price less than current values. Another suggestion, made by a member of the City Council, is that the city lease lots to individual home-builders, making a permanent lease in consideration of the payment of taxes and a nominal rent of 4 per cent per year. An ordinance embodying this idea is pending in the Council. A bill, introduced at the last session of the Pennsylvania Legislature, empowering

municipalities in the state to acquire property for development and for the erection of dwellings, was allowed to die in committee.—MUNICIPAL REVIEW.

NOTE:—Of all the curious limits which are interpreted into the constitution none seems stranger than that which prevents towns and cities from taking control of the physical living conditions of those citizens who cannot otherwise escape them, while empowering, yea, obliging, those same towns and cities to buy land and use the taxpayers' money for housing them free in hospitals, jails, houses of detention, and other institutions. In other words, the town can bear the entire burden of caring for the stream of broken and diseased humanity that flows from its slums, but it must be left to individuals to carry on slums at a profit. Constitutionality is after all a relative thing and varies with advancement of public opinion. Without a line of change in our federal constitution, the income tax is now held to be constitutional, where once the Supreme Court declared it to be quite the contrary. And as our law rests on the common law of England, it is worth while to remember that London is landlord over some 3,500 cottages at the present time, and that, as related elsewhere in this number, it is proposing to invest, as landlord, a billion and a half dollars; also, that on the new houses it is proposed to erect, it may have to stand an annual deficit of nearly \$250 per house, for a considerable period. That is what Pittsburgh will come to, some day, in spite of the constitution, unless it grapples with its housing problem intelligently and not purely from a judicial point of view.—EDITOR.

Housing in New York City

There is ample evidence to support the contention that by the end of the current year the shortage of housing

apartments in New York City will approximate the startling figure of 35,000. Plans filed up to the present time do not indicate that any appreciable diminution in this shortage will be cared for by current building.

The report of the housing committee of the Merchants Association of New York suggests, as a remedy for the present condition, the exemption from tax of mortgages, but it clearly recognizes the fact that this is merely a temporary palliative, and that it would momentarily, at least, only serve to encourage the release of money for building loans and thus set construction in motion. Obviously there are other grave difficulties that aggravate the present critical situation—prices, uncertainty of the future, and the general unrest among workers. The housing committee expressed its conviction that no abatement in the price of building was to be expected. Other agencies in New York City are considering the housing problem. For example, the Lower Yorkville Community Council adopted the following resolutions to be forwarded to Governor Smith:

1. That vacant land in the city suitable for housing be withdrawn from speculation.
2. That the money in banks, etc., be made available on long-term mortgages for building homes.
3. That vacant tenements unfit for use be bought by state or city and made into suitable dwellings.
4. That landlords who have not improved their property, and whose taxes have not been raised, be prevented from unfairly raising rents.

The platform of the new Labor Party, which will invite the support of New York voters at the next election, states that every housing project must fail until the holding of unimproved or underimproved land out of the market, in attending a speculative rise, has been effectively prevented by taxation.

News Notes

Rebuilding France

According to English press reports, Premier Clemenceau stated in his recent speech at Stenay that while Germany will supply the material which France lacks for rebuilding her shattered towns and villages, the bulk of the labor required will apparently be supplied by Austria, and German prisoners of war will soon be sent to their homes. The Premier mentioned that labor had been offered by Austria. The men to be sent are state workmen, whose output, he believes, will be better.

The same reports state that M. Clemenceau found at Verdun a sorely-trying but valiant and greatly reduced population. In fact, out of 14,000 inhabitants before the war, only 4,000 have returned, and many will have to leave by the winter if their houses are not soon repaired. Verdun is absolutely without resources, and cannot pay its officials. The Premier was much moved in speaking of the town's heroism. It was much easier to make war than to make peace, he said. He left Verdun with a promise that the town's pressing requirements would be fulfilled—that labor, coal, and huts would be supplied in sufficient quantities in good time.

Structural Service Department

Due to the increasing pressure on its columns by reason of extending activities, and in view of the steadily increasing cost of publication, the Journal announces that for the present the Structural Service Department will appear every other issue.

Student Field-Work in the A. E. F.

The Journal has already made brief allusion to the admirable work in architectural instruction that was done in connection with the army student work in France. Mr. Ernest Coxhead, one of the teachers who labored so successfully in this field, has just returned to this country and writes to the editor as follows:

"I very much wish to call your attention to student field-work, as I conceive it might be installed to a greater extent in our schools of architecture. To my mind, the study of architecture and the appreciation of it can be speeded up by adopting the methods we inaugurated in the overseas schools, at LeMans first and later at the A.E.F. University at Beaune. This method was to take the

NEWS NOTES—CORRESPONDENCE

student to *architecture* for study. The school idea is to place before the student paper delineations and photographs of architecture for him to study. In the first instance, the student draws from the *living model* and gets form in three dimensions while making notes and measurements from the building, with an accompanying *sense of masonry*, all with the object of memorizing his observations.

"In the second case, the student gets these things by *second-hand* methods as fleeting interpretation, from which he transcribes by redrawing, thus seeing the object in diminished scale and in one dimension only.

"There is nothing new in this idea of student field-work as a method except its application in the curriculum in the overseas schools of the A.E.F., first at the A.E.F. School of Architecture, LeMans, and later at the College of Fine Arts, A.E.F. University, Beaune, Côte d'Or. These were the first schools to apply this method in the teaching of architecture almost to the total exclusion of other features of training. The success attained by the students in *getting architecture quickly* has left no doubt of the value of the experiment, so much so that I feel we should do everything possible to continue the overseas school, and also endeavor to have the method made an important feature of our colleges of architecture.

"In talking with some heads of colleges over here, and with others prominent in our profession, I have received the strongest endorsement and encouragement to start propaganda to bring this about. There is more than enough of the finest contemporary work in our large cities—work that from its supreme excellence in design can now be claimed as the product of the whole architectural profession as well as of the individual author—which furnishes abundant material for field-work study.

"The claim that the four-year architectural course is already so overcrowded with subjects that it is difficult for the student to 'get through' is in itself the finest argument in favor of the field-work method, which, in reality, is nothing but a short-cut to the study and appreciation of architecture.

"The field-work method should, of course, be applied

to construction tuition as well as to the esthetic side, since the two are so closely interrelated. Our students in France told me, time and time again, that their field-work study there was equal to three years of the *book* and *photograph* study methods of the schools in the States. While this remark was largely an ardent expression of appreciation, it illustrates the importance of the method."

The Louisiana Chapter Suggests an Inquiry Into the High Cost of Building

At its last meeting, the Louisiana Chapter addressed to the Hon. James D. O'Connor, House of Representatives, Washington, D. C., the following letter:

"*Dear Sir:* With reference to the investigations started on the high cost of living, we beg to advise that, at a meeting held August 7, it was the sense of the Louisiana Chapter of the American Institute of Architects that this investigation not only look into the high price of food products, but that all necessities of life, including building materials, be given consideration.

"The Chapter is of the opinion that profiteering is being indulged in by producers and manufacturers of almost all building materials and that combinations and understandings exist which are in restraint of trade and by which price-fixing is resorted to.

"It is respectfully suggested, when considering laws to cope with profiteering and unscrupulous monopolies, that those affecting the building trade be not overlooked and that these laws provide drastic and severe punishment for those found guilty.

"The Chapter fears, if something is not accomplished at an early date that will result in materially lowering the cost of living and bring about a readjustment and stabilization of prices, that the growing unrest and discontent prevailing in all classes of society will result in consequences that are frightful to contemplate.

"The Chapter believes the evidence when examined will show that prices of commodities advanced in greater ratio than the advance in labor."

Correspondence

About State Societies

TO THE EDITOR OF THE JOURNAL:

In reference to the editorial in the August Journal, reciting certain questions concerning the policy of the Institute as established at the Fifty-second Convention on the amount of Institute dues to be paid and on the organization of state societies and their representation in the Institute Conventions, I would like to say, in justice to a considerable volume of opinion, including the opinion of the majority of the delegates to the Convention, opposed to the evident view of the editor, that the editor's consideration seems to omit entirely most of the resolution referred to.

The editorial expresses the opinion "that the very advocacy of state associations [by the Institute] is, in itself, a self-confessed failure of its ability to organize the archi-

tectural profession and a placid avowal of its willingness to leave the problem to others."

A consideration of the whole resolution can not logically lead to such an opinion of the intent and purpose of the Institute, notwithstanding the "considerable body of opinion" to the contrary, of which the editor seems to be aware. True, the resolution is: "That the Board of Directors of the Institute be directed to encourage the organization of state societies"—but why stop there and attempt to imply that this action of the Institute was "a self-confessed failure of its ability to organize the profession"? The resolution continues: "and invite such organizations to be represented at the National Convention of the American Institute of Architects with such status as the Board of Directors may determine." This part of the resolution is just as mandatory as the former and suggests a way to bring the architects now so organized, and to be organized,

into representation in the national body of the Institute at the conventions in whatever manner the board may determine to be best to carry out the spirit of the preambles of the resolution, namely, to accomplish a national organization that "would be more representative of the architectural profession."

The resolution as a whole is designed to be a constructive step toward the organization of "all honorable architects of [the] respective states" into one national organization, rather than an act of senility, as the editorial would lead one to believe. It is a method adopted by the Convention, directing, if not commanding, the Board of Directors to bring about the organization of state societies, and to bring them and those already organized into relations with the Institute somewhat as the Chapters are, and, to quote the last clause of the resolution in question, "maintain correspondence with the secretary or other designated

officer of these societies" presumably about as such correspondence is, or should be, maintained with the Chapters.

It is an attempt to carry out in a practical manner the wish of the president, as expressed in his address to the Convention, and in his address to the Illinois Society of Architects, quoted in the editorial in question, rather than an attempt to bring all practising architects into the national body by reducing the dues of Institute members. The "whimsey" allusion to the dog and its tail should be reversed if it applies at all to such a national democratic organization as the Institute wishes to be. The state organizations, whether they be Chapters or societies, or both, will be the volitional part of the national body. The confusion arises in the head when the head can not distinguish the dog from its tail, or can not recognize the tail as an expressive part of the dog.

HENRY K. HOLSMAN.

Book Reviews

The Housing of the Unskilled Wage Earner.

By EDITH ELMER WOOD. New York: Macmillan Co., 1919. \$2.25.

In "The Housing of the Unskilled Wage Earner" Mrs. Wood has given us a concise account of what is spoken of as "The Housing Problem." It is, I believe, the first American statement of its kind which includes within its scope anything like a comprehensive presentation of the present housing situation, local and general; of legislative programs, past and present, and of the various points of view with respect to the so-called underlying principles which should guide the technique of instituting effective housing reform. This book may well serve as a guide or index to the student, but it is sufficiently complete to afford the lay reader a basis for the establishment of an opinion concerning the immediate necessity for more broadly conceived action and also the direction which such action might well take. A point of departure is found in the recent federal effort to provide adequate living accommodations for those who engaged in our expanded war industries. The existing housing conditions are set forth through a summarized historical note, and brief statements relating to typical local conditions present a case for action.

What has been done by way of legislative enactment as well as what has been accomplished by private initiative in the United States is presented in two well-organized chapters. Of particular interest at this moment, of course, is the review of "The Experience of Foreign Countries" wherein one gains a general view of how this particular problem has been approached by other nations of the world and something, naturally, of the importance which is now coming to be attached to the provision of a more adequate environment for the common man. The chapter which deals with "The Beginning of Constructive Housing Legislation in the United States" is most pertinent at this time. By contrast with the programs of other nations, it is interesting and instructive, for, as Mrs. Wood points out in effect, we have not as yet seriously compromised the situation by bad constructive programs of action; we have

a clear field before us and literally a world of experience to draw upon when we initiate the next step, as we shall. Thus far the presentation is largely in the nature of matter-of-fact statements and arguments, all of which represents a painstaking study of evidence.

It is the last two chapters which will arrest the attention of the thoughtful reader, for here is presented a discussion of the underlying arguments upon which Mrs. Wood bases her "presumption in favor of constructive housing legislation in the United States," a program for which is presented in the last chapter. In brief, the author assumes properly that the problem as such arises out of the same or similar causes the world over, and that there is no valid reason to suggest that its solution will be found in the United States by a technique which has failed elsewhere. The presumption that we should embark upon a program of constructive housing legislation is sustained by an argument in which the author deals with this phase of the subject under five major headings: the Constitutional, the Economic, the Social, the Philosophic, and the Pessimistic Objections.

It is the final chapter, "Outline of a Comprehensive Housing Policy for the United States," which naturally demands the closest study. If viewed from the standpoint of what might logically constitute the next step, it presents a very great deal to commend it. It is pointed out that "any comprehensive plan looking to an even tolerably satisfactory solution of the housing problem in the United States must include the *simultaneous and correlated development of restrictive and constructive housing legislation* in their most effective forms. Thus far we have failed in this country because we have had only restrictive laws. The two types are in no sense antagonistic, but are mutually complementary, and neither can be satisfactorily enforced without the other. Restrictive housing legislation alone will not do, because no restrictive law can set satisfactorily high standards, or having set them, dare enforce them, *unless, or farther than, constructive housing legislation is simultaneously supplying the demand for*

dwelling of the required standard and rental. Otherwise those intended to be benefited would be deprived even of the apologies for houses they now possess. Increase of wages by itself will not meet the difficulty. . . . The landlord will merely raise rents to correspond." The functions which should be performed by the municipality, the state, and the nation with respect to regulation, and the use of credit, along paths similar to those already established by other nations are outlined in considerable detail. It would be unfair to discuss these definite suggestions without including the entire program as presented. The program is workable; the most radical of its proposals—if they may be called radical today—falls well within the area of governmental action which our habits and thoughts have come (quite recently) to associate with what is right and proper. This program does not upset our institutions; it maps out certain areas over which the functions of government are to be made to expand. This merit constitutes at the same time its fault and its weakness. The program makes no attack upon our institutions and our customs which are so largely responsible for bringing about the present situation. These institutions are to continue, under this handicap of legislation, to run their course without abatement. The program does not set about eliminating the causes.

I understand fully that we must have restrictive legislation of a type more drastic than we are accustomed to enact; I likewise know that we must also have restrictive legislation of the type and kind suggested: but I am fully convinced that the mere enactment of the full program into law will not, under present conditions, achieve the results desired. This program fails to come to grip with the land question. So long as we fail to arrest the development of the increment in land values for private use, so long will we have congested cities and slums. For it is the prospective speculative profit in land which will in reality limit the power of restrictive as well as constructive legislation: legislative measures will continue to be framed in conformity to this prospective gain. Direct and not indirect control of the increment in land arising out of occupancy is an essential preliminary step toward the development of better housing conditions.

And back of the land question, of course, is the still larger aspect—*unskilled wage earners!* The very phrase gives us away. All of our legislative action in this as in other phases of our attempt to organize a better society will be of little avail so long as all production is actuated by that spirit which fosters the development of an ever-increasing army of unskilled wage earners.

FREDERICK L. ACKERMAN.

Obituary

George Thomas Tilden

Elected to the Institute in 1874; to Fellowship in 1889
Died at Milton, Mass., July 10, 1919

Mr. Tilden was born in Concord, N. H., on March 19, 1845. His father was William Phillips Tilden, for many years a prominent Unitarian clergyman in Boston. His mother was Mary Jacobs (Foster) Tilden, a native of Scituate. George Thomas Tilden was educated at the Phillips Exeter Academy, and, after graduation, worked in the office of Ware and Van Brunt in Boston. He attended lectures at the Lowell Institute in Boston, the forerunner of the Massachusetts Institute of Technology, and went to Paris in 1869, where he studied in the atelier of Emile Vaudremer.

On returning to this country, he began the practice of his profession in Boston, and in 1880 became associated with Arthur Rotch, under the firm name of Rotch and Tilden. For the following fifteen years this was one of the most active architectural firms in New England and also in New York City, Washington, Charleston, South Carolina, and other places. Since Mr. Rotch's death in 1895 Mr. Tilden practised alone. About three years ago he gave up his Boston office and had virtually retired from active participation in professional work, although he kept an office at his home in Milton. He was trustee of the Rotch Travelling Scholarship. For a long time he was a member of the Royal Arcanum and one of the charter members of the branch of that society in Dorchester and Boston, but he had retired from active membership some years ago. He was a life member of the Boston Young Men's Christian Union and also a life member of the American Unitarian Association. He had lived forty-three years in Milton, Mass., and was active in town affairs there, as well as an interested member of the First Parish Church.

On October 5, 1871, Mr. Tilden married Miss Alice Olmsted Butler, of Cincinnati, Ohio, daughter of Major John B. Butler, of the Ordnance Corps, U. S. Army, and Catherine Selina (Gazzam) Butler, of Pittsburgh.

Among the more important work executed by Mr. Tilden there may be mentioned the Milton (Mass.) Town Hall; Sargent Normal School building and gymnasium, Cambridge, Mass.; the Art Museum, Wellesley College; Plymouth (Mass.) High School; Jesup Hall, Williams College; Parish House, First Parish Church, Milton, Mass.; Public Library, Billerica, Mass.; Blue Hill Observatory, Milton, Mass.; American Legion of Honor Building, Boston, Mass.; "Ventfort Hall" and "Belvoir Terrace" at Lenox, Mass., and many private residences in the eastern section of the United States.

Institute Business

Meeting of the Executive Committee, Detroit, Mich., August 15 and 16, 1919

Members Present. The full Committee was in attendance. **Department of Public Works.** The Committee discussed the bill now before Congress, an account of which has already appeared in the Journal.

The Secretary reported that the Engineering Council is now carrying on extensive propaganda in favor of the bill and has addressed a letter to all organizations participating in the Chicago conference asking for contributions to a fund of \$100,000 to finance the campaign.

It was resolved, that Mr. Pond, of the Committee on Public Works, who has represented the Institute in this matter, be asked for an immediate report on the bill, giving his opinion on its various provisions with due regard to their effect on the architectural profession, and that Mr. E. J. Russell, who it is understood has been invited by the conference to represent the architectural profession on its Executive Committee, also be asked for an expression of opinion and the action which he believed the Institute should take and that the letter of the Engineering Council be referred to the President, the Secretary, and the Treasurer with power to act, on the basis of the reports received from Messrs. Pond and Russell.

Omnibus Public Buildings Bill. The Secretary reported that the Omnibus Public Buildings Bill, which was introduced but not acted upon at the preceding Congress, would not be introduced at the present session. The House Committee on Public Buildings and Grounds has decided to prepare a bill for the regular session in December. It is understood that large appropriations will be carried as in the former bill, but the attitude of the Committee with regard to Section 24 of the old bill is not definitely known. This Section provided for the employment of private architects under a form of competition to be conducted by the Secretary of the Treasury, such competitions to be limited to the architects of the state in which the building is to be erected.

The progress of this legislation has been carefully observed from the beginning and it has been stated by the Chairman of the House Committee, Mr. Langley, that the Institute will be advised of any hearings that may be held on the provisions of Section 24 in order that it may send representatives if it desires.

Proposed legislation embodied in H.R. 7656 for the abolition of the U. S. Housing Corporation was considered; also the favorable report from the House Committee on Public Buildings and Grounds.

Proposed Abolition of U. S. Housing Corporation. This bill is now on the House Calendar and may be acted upon by unanimous consent at the present session. So far, no definite action has been taken by the Institute in this matter, which has a direct bearing on the proposed legislation (the Tinkham Bill) creating a permanent Housing Bureau in the Department of Labor.

After a general discussion of the provisions of this bill, and of its general relation to the Tinkham bill, it was resolved, that, while in the opinion of the Executive Committee the American Institute believes the present operations of the Housing Department of the Department of Labor are not for the best interests of housing conditions in the United States, it does not believe the proposed abolition of the Housing Bureau, involving the immediate disposal of all its properties, to be wise.

Bureau of Housing and Living Conditions. H.R. 7014, a bill introduced by Congressman Tinkham to create a Bureau of Housing and Living Conditions in the Department of Labor was then considered. This bill had been submitted to the members of the Executive Committee by mail for their advance consideration; also a copy of a letter of July 14 from Secretary Wilson to Mr. Langley, Chairman of the House Committee on Public Buildings and Grounds, before which the bill is pending. It was resolved, that the Executive Committee endorse the Tinkham bill for the creation of a Bureau of Housing and Living Conditions in the Department of Labor.

State Societies of Architects. It was reported that, in accordance with the Convention resolution directing the Board of Directors to encourage the organization of state architectural

societies, and to cooperate with those societies, two communications have been sent—one to Chapters, on June 14, 1919, transmitting the Convention resolution in full; and the other, dated July 15, 1919, to the fifteen state societies throughout the country. This last communication summarized the wishes of the Convention, offered the cooperation of the Institute and requested a copy of the constitution and by-laws of the society. So far but two responses have been received, both from state associations of the Institute. It was resolved, that the Secretary be authorized to send an invitation, which should first be submitted to the Board for approval by mail, to each of the state societies, asking them to send one or more representatives to the next Institute Convention. In this invitation there should be expressed the hope that the representatives of the state societies will come ready to present papers, or join in the discussions, concerning the problems which are of interest to the profession as a whole.

Improvement of Farm Buildings. The Secretary read the resolution adopted by the Fifty-second Convention which directed that the Board of Directors encourage by every lawful means, and through the medium of the various Chapters, a nation-wide movement to improve the architectural treatment of farm-buildings of the countryside. It was resolved, that the President be requested to appoint a special Committee to develop this work for the Institute.

Gratuitous Expert Service from Contractors and Material Men. Consideration was given to the resolution of the Fifty-second Convention to the effect that securing gratuitous expert service from contractors or material men in connection with the preparation of plans and specifications is contrary to the spirit of the Circular of Advice, and otherwise discreditable.

The best means for making this resolution generally known to the membership and the profession were then considered, and it was resolved, that the Secretary be authorized to notify the members of the Institute with regard to this Convention action, and to include in the communication notes of any other matters of general Institute business which it may be desirable to bring to the attention of the membership.

Report of Special Committee on Coöperation with French Architects. Mr. Butler, as Chairman of the Special Committee on Coöperation with the French architects, transmitted a report. [The substance of this was printed at length in the August Journal.]

The report concluded with the following recommendations:

1. That the Executive Committee of the Board of Directors of the Institute appoint a permanent Franco-American Committee to cooperate with the Office du Batiment, in which the Structural Service Committee and the Committee on Contracts and Specifications would be represented, and that the Committee be authorized to add to its membership engineers, contractors, material men, etc., as may prove desirable.

2. That provision be made in the Budget for the expenses of carrying on the work of this Committee.

3. That the Committee be authorized to employ the necessary publicity in the Institute, and to secure the cooperation of the Chapters through subcommittees, in the matter of placing the proposed bond issue of the "Coöperative of the Société des Architectes Diplômés" when satisfactory information as to its terms of the bond issue has been furnished.

It was resolved, that the President be empowered to appoint a permanent Franco-American Committee constituted and instructed in the manner recommended by the Special Committee; that the matter of financial coöperation between French architects and the Institute, or its membership, be referred to this Joint Committee when it is appointed.

Greetings from the R.I.B.A. The President reported a cablegram from the Royal Institute of British Architects as follows: "The Royal Institute of British Architects salutes all American architects and sends them brotherly greetings and congratulations on conclusion of victorious peace.—Simpson."

The President was requested to make reply expressing the

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pleasure of the Board of Directors in the receipt of this message, on behalf of the architects of the United States, and reciprocating the greeting.

Report of the Treasurer. The Treasurer submitted the Auditors' statement of the finances of the Institute to the close of business on July 31, 1919. While the general financial situation was found to be satisfactory, it was noted that the collection of dues, particularly from those indebted for years prior to 1919, was not what it should be, especially in view of improved business conditions. There was outstanding, on July 31, approximately \$10,000 in back dues, and to collect this amount the Treasurer proposes to send out a special notice. The report was accepted.

Endowment Fund. With reference to the resolution of the Fifty-second Convention directing the Board of Directors to present to the next Convention an amendment to the Constitution providing for the establishment of a permanent Endowment Fund, the President was requested to appoint a Committee of three, of which the Treasurer shall be Chairman, to draft an amendment for submission at the next Board meeting.

Equalization of Delegate Expenses. Consideration was given to the resolution of the Fifty-second Convention directing that the Board of Directors make further efforts to devise some fairer method than that heretofore employed for equalizing delegates' expenses at Conventions, and the Secretary was requested to write to the officers of the Chapters inviting suggestions in this matter.

The Reserve Fund. Under authority of the resolution of the Fifty-second Convention concerning the Reserve Fund, it was resolved, that the Treasurer be authorized, should it be necessary, to transfer from the Reserve Fund account to the General Fund of the Institute, under the conditions stated in the resolution of the Fifty-second Convention, a sum not in excess of \$10,000 for the purposes specified in the Convention resolution.

Remission of Initiation Fee. With reference to the remission of the initiation fee, reduced by the Fifty-second Convention from \$30 to \$20, it was resolved, that the initiation fee, to the extent of \$15, be remitted during 1919 for all applicants who were Chapter members at the time of or prior to the Fiftieth Convention, December 6 to 8, 1916.

Basic Building Code. The Secretary presented a preliminary report from Mr. Boyd, Chairman of the Basic Building Code Committee, with particular reference:

To the formation of an advisory subcommittee on plaster and stucco, for which a personnel, representatives of more than thirty of the leading technical and building associations, was suggested, and the printing of a letterhead for the same; to the conventions and work of the American Society for Testing Materials and the American Concrete Institute and the desire of the Chairman that the Institute take a more active part in the work of these associations, through its Chapters and through membership on a joint committee on reinforced concrete.

Mr. Boyd also requested that the Executive Committee place on the schedule, for action by the Board of Directors at its next meeting, the adoption of the various standards proposed by Prof. Thomas Nolan in the report of the Committee on Materials and Methods as made to the Fifty-first Convention of the Institute.

After a study of the preliminary report and after discussion of the relations which the Institute should bear toward the activities and reports of the various technical organizations mentioned, the Secretary was requested to advise the Chairman to the effect that work of this sort ought to be done by the Bureau of Standards; and that the efforts of the Basic Building Code Committee should be devoted to bringing about the preparation of a Basic Building Code by the Bureau of Standards, as outlined in the instructions to the Committee.

In discussing the findings and the reports of special committees of various technical societies, it was the sense of the meeting that the Institute is not in a position to pass expert judgment in detail and to say conclusively to its membership that such reports constitute the final and best authority on the subjects they cover; but the Executive Committee believes, because of its knowledge of the methods by which these standards are produced, that the findings of the various committees of the National Fire Protection Association and the American Society for Testing Materials, as approved and issued by these societies, are the best obtainable guides and recommend their use by the members of the Institute.

Work of the Committee on Education. The President read a letter from C. C. Zantinger, Chairman of the Committee

on Education, with regard to completing the personnel of that Committee, and with regard to a meeting with the special committee of the Association of American Colleges. At that meeting methods were considered by which appreciation of the fine arts might be introduced into all the colleges. The Committee on Education has discussed the best means for accomplishing this purpose and is considering the publication of a textbook suitable for general use in the colleges. The Committee desired authorization to proceed along these lines, it being understood that any expenses incurred are not to be chargeable against the Institute, but that the Committee itself will raise the money. It was resolved, that the Executive Committee approve the work which the Committee on Education is doing, and request further detail concerning the character of the textbook and the proposed methods of financing for approval by the Board in advance of its issuance. The matter is left for further action if possible at the November Board meeting.

The Art Service League. The President presented a communication of August 4, 1919, from Frederick W. Perkins, Secretary of the Art Service League, organized in Chicago, for the purpose of uniting the efforts of art workers in public service, civic, state, and national, to cooperate in bringing about a better understanding by the public of the value and proper application of art and the development of its use as a national asset, and to promote among its members better acquaintance with current questions and a more active participation in public affairs.

Mr. Perkins expressed the hope that he would be authorized by the Board of Directors to advocate the formation of art service leagues in the territories of the Institute Chapters and by the initiative of Institute members, with the idea that these several leagues be merged eventually into one national organization. Should this suggestion be favorably acted upon, Mr. Perkins suggested that a circular letter be sent from the headquarters of the Institute to the officers and executive committees of all Chapters, expressing the conviction that such action will be of direct benefit to the Institute and to the public. It was resolved, that Mr. Perkins' suggestions be complied with and the Secretary was requested to follow the procedure outlined by Mr. Perkins, with respect to participation of the Institute. His communication to the Chapters should contain the suggestion that, in so far as organizations of a similar character to the type proposed by Mr. Perkins already exist, cooperation with them should be encouraged rather than the creation of a new organization.

Revision of Circular of Advice and Canons of Ethics. Mr. Parker, as Chairman of a Special Committee, appointed at the post-Convention Board meeting, reported as follows concerning the proposed revision of the Circular of Advice and Canons of Ethics, as submitted by the Illinois Chapter, and as referred to the Board of Directors by the Convention for their consideration.

The proposed revisions were carefully considered by the Secretary in conjunction with R. C. Sturgis and H. H. Kendall acting in place of Mr. La Farge. The suggested changes, apart from relatively unimportant verbal changes, involve two major points:

- (a) Inclusion of definition of an architect's service as a builder under certain conditions of remuneration.
- (b) Addition of the word "formal" before the word "competition."

The Convention believes it is not yet desirable to do the former and that it is dangerous to do the latter without similar changes in the competition code. Unless the entire Circular of Advice is redrafted, it seems undesirable to act on a few relatively unimportant verbal changes, even if they are of themselves approved. When other changes make a more extended revision desirable, the Committee would advise including the following two changes:

- (a) Par. 11 "On offering services gratuitously"—omit the last five words "and is to be condemned," as there is no punishable offense involved.
- (b) Revise the preamble to the Canons, to note that punishment is involved.

The Committee advised no change at this time.

The Executive Committee concurred, but requested the Committee to consider the drafting of a statement of the professional relationship of the architect to his work for inclusion in the Circular, and to report further.

It was resolved, that final action on this report be referred to the Board at the November meeting, and in the meantime a summary of the report is to be sent to the Board by mail.

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Post-War Committee. Robert D. Kohn, member of the Executive Council of the Post-War Committee reported that the Executive Council, Messrs. Dunning, Medary, and Kohn, had held a meeting in Detroit on August 14, at which time a preliminary report was formulated. This report was then submitted by Mr. Kohn verbally, and supplemented by Mr. Medary. At the request of the Executive Council, the preliminary report was not entered upon the records and the suggestions of the Executive Committee on its various sections were received informally.

With regard to competitions, the Post-War Committee reported that it was considering the appointment of a Committee to study the subject of ways and means by which the young practitioner may establish himself in his practice without resorting to competitions.

The Committee also reported that it plans to call a conference some time this fall, perhaps in Detroit in November, in which many professional organizations will take part, with the object of discussing and developing the idea of a league of professions. The Institute was formally invited to participate officially in this conference, and the invitation was accepted by the Executive Committee.

Articles 12 and 13 of the Circular of Advice. Consideration was given to the resolution of the Convention which referred to the Board for further recommendation the phraseology of Articles 12 and 13 of the Circular of Advice, with regard to advertising.

The Secretary, as Chairman of the Special Committee charged with study of the proposed complete revision of the Circular of Advice, stated that Articles 12 and 13, as discussed at the Convention, have been considered as part of the revision of the entire Circular, and that the Committee offered no separate report on these two sections.

Model Registration Law. Mr. Schmidt, Chairman of the Committee on Registration Laws, reported that the model form of law for the registration of architects has been printed in the Journal, and also as a separate pamphlet, of which copies have been distributed to various Chapters and individuals, but of which there has been no distribution to all Chapters. He called attention to the Convention resolution which directed that the attention of each Chapter be called to the fact that copies of the model law, approved by the Institute, and also helpful advice of the Institute Committee, might be obtained by correspondence with The Octagon.

It was resolved, that the Secretary be requested to transmit to the Secretary of each Chapter of the Institute the Convention resolution and the model Registration Law, and that in this communication it should be made clear that the motive of every registration law should not be to exclude those who are already practicing. No new law should have for its intent—and the model law of the Institute has no such intent—the exclusion from practice of men who are really competent to design buildings.

Cost-Plus-Fee Documents. Mr. Parker, Chairman of the Committee on Contracts, reported that on July 21, 1919, a Fourth Tentative Draft of a Form of Agreement between Contractor and Owner on the Cost-Plus-Fee Basis, with a Circular of Information accompanying the same, were distributed to the entire membership of the Institute and to various associations representing the technical and building organizations of the country. Comments and criticisms were called for and these are now being received. It is hoped to issue the final document in the early fall.

Letter from National Association of Electrical Contractors and Dealers. The Secretary reported a letter from the Chairman of the Special Architects' Committee of the N.A.E.C.D., which proposed closer coöperation between the architects and the subcontractors in general, and in particular the preparation of a form of Subcontract on the Cost-Plus-Fee Basis in preference to the stipulated sum contract form now in use, and the standardization of electrical specifications, and suggested that the N.A.E.C.D. and the Institute coöperate in an effort to formulate and promulgate, with explanatory notes, on the use of alternatives, a standard specification.

It was resolved, that the communication be referred to the Committee on Contracts, to the Structural Service Committee, and to the Post-War Committee with a request for recommendations for the November Board meeting.

Competitions. Mr. Schmidt, Chairman of the Committee on Competitions, reported that a communication was addressed by him on July 19 to many of the foreign architectural societies, forty-four in all, in which copies of the competition documents of

the American Institute were transmitted, and in which inquiries were made concerning competition practice in foreign countries, the development of the idea, and its present status. The data collected will be used by the Committee in its study of the subject of competitions, as directed by the Board.

National Board for Jurisdictional Awards. The President reported that under authority of the Convention, the President and Secretary have formally approved, on behalf of the Institute, the plan of the National Board for jurisdictional awards in the building industry.

The organization meeting of the Board was held in Washington, on August 11, at which time E. J. Russell, who was appointed by the President as the Institute's representative, was elected permanent Chairman. The next meeting of the Jurisdictional Board will occur in November, at which time decisions binding on the membership of the various organizations represented will be rendered. These decisions will be transmitted in due course to the Institute.

Proposed Organization of American Standards Association. There was presented a report of a conference on industrial safety codes held at the Bureau of Standards, and a proposal for the organization of an American Standards Association. Also a letter ballot addressed to the Institute asking for a vote on the plan of organization preferred, and if the Institute would participate as a member if such association were formed. It was resolved, that "Plan B" be accepted and the Bureau of Standards so notified; the Secretary was requested to fill out the ballot accordingly.

Lumber Manufacturers' Conference in Chicago. A report of July 22 from Emery Stanford Hall was submitted. He attended a conference of the Lumber Manufacturers' Association in Chicago, on June 30, representing the Structural Service and Small House Committees of the Institute.

This conference was a unit in desiring to establish uniform standards for grading and sizes of lumber, and grading and sizes and type of mouldings for the entire United States, with the hope that Canada would adopt similar standards. Practically every discussion of topics before the conference terminated in resolutions referring the subject matter to the Engineering Bureau of the National Lumber Manufacturers' Association to draft definitions of terms, define grades, and tabulate standards of size which would apply to the entire lumber product of the United States. This Bureau was instructed to coöperate fully with the Institute and the national engineering societies.

The execution of these instructions will practically cause the Committee to prepare a textbook on lumber, grading, and sizes applying to the territory of the United States.

The report was accepted.

Assignment of Chapters to Board Members. Pending final action by the Post-War Committee, and also by the Committee on Regional Representation, Chapters were assigned to Board members as follows, each member being charged with the duty of aiding his Chapters whenever possible in local problems.

To Mr. Kohn: The Central New York, Buffalo, Pittsburgh, Southern Pennsylvania, and New Jersey Chapters.

To Mr. Donn: The Cincinnati, Virginia, and the Washington (D. C.) Chapters.

To Mr. Zantzing: The Philadelphia and Baltimore Chapters.

To Mr. Kendall: The Boston, Connecticut, and the Rhode Island Chapters.

To Mr. Favrot: The North Carolina, South Carolina, Georgia, Alabama, Louisiana, and the Texas Chapters.

To Mr. Ittner: The Colorado, Kansas City, Kentucky, Nebraska, St. Louis, and Tennessee Chapters.

To Mr. Hewitt: The Minnesota, Iowa, Wisconsin, and the Michigan Chapters.

To Mr. Schmidt: The Illinois, Toledo, Dayton, Columbus, and the Cleveland Chapters.

To Mr. Lawrence: The Oregon and the Washington State Chapters.

To Mr. Faville: The San Francisco and the Southern California Chapters.

To Mr. Fenner: The New York and Brooklyn Chapters.

The Secretary spoke of the desirability of having each Chapter visited officially once each year by a member of the Board, and it was the sense of the meeting that as far as possible Directors should endeavor to visit each of the Chapters assigned to them.

Annuary and Proceedings. The Executive Secretary reported that the Annuary was in type prior to the Convention,

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except for the names of officers and personnels of standing and special committees. Although the committees were appointed on the day following the Convention, it was not possible to secure more than the 150 acceptances necessary, and new appointments for those who declined, until the middle of July. At that time only a few vacancies remained, and it was decided to print the Annuary without further delay, indicating such vacancies by notes. The Annuary was printed and mailed in the latter part of July.

The Proceedings were mailed on August 8, about thirty days sooner than on any previous occasion. The period for editing and printing the Proceedings could be materially reduced were it not for a demand by those who take leading parts in Convention discussion that they be furnished with galley proof for correction. In the present case, manuscript, or galley proof, was furnished to an unusually large number, and this distribution required considerable time. From an experience of four years it is believed to be preferable to have a satisfactory and accurate record, secured by distribution of galley proof rather than to have the Proceedings rushed through without giving such opportunity to those who wish to make sure that their remarks convey the meaning intended—even though several weeks of time would be saved thereby.

It was resolved, that the report be accepted and the work of the Executive Secretary in editing these two documents be commended.

Revision of Disciplinary Rules. At the April meeting of the Board, the Rules for the Guidance of the Committee on Practice and the Judiciary Committee were submitted in revised form by the Chairman of the Judiciary and Practice Committees. It was resolved then that the revision be accepted subject to the approval of Institute Counsel. The document has been submitted to Institute Counsel who has commented thereon in a letter of June 11, 1919, in which several changes were proposed. These suggestions were submitted for comment to the present Chairman of the Disciplinary Committees, and to Mr. Sellers, the former Chairman of the Judiciary Committee. Letters from Mr. Jensen and Mr. Sellers were then read, and Mr. Schmidt expressed his views verbally. It was resolved, that letter from Institute Counsel be referred to the Chairmen of the Judiciary and Practice Committees to take up with counsel and report at the November Board meeting.

Public Information Work Done by D. K. Boyd. The attention of the Executive Committee was called to public information work done by D. K. Boyd, in Philadelphia, by the publication in

the Philadelphia papers of a comprehensive letter by Mr. Boyd concerning the personnel of a Committee of One Hundred appointed to suggest candidates for city offices. In this letter Mr. Boyd commented upon the absence of architects from a supposedly representative committee and took the opportunity to point out what has been done for the city of Philadelphia by the leading architects there.

Institute Membership. The President presented a letter from Frederick W. Perkins, Chairman of the Committee on Institute Membership, which is summarized as follows:

The Executive Council of the Committee, consisting of the Chairman and Messrs. C. H. Hammond and Henry K. Holsman, have issued a letter of August 7, 1919, to the Chapters of the Institute, advising the Chapters of the duties of the Committee, of the necessity of the Institute for increased membership, and of the new form of application which simplifies procedure. This letter also called for the submission of data from each Chapter concerning architects and architectural associations affiliated and unaffiliated with the Institute. From this data the Executive Council can develop its program based on a knowledge of conditions existing throughout the United States.

Both of these communications were received with great interest by the Executive Committee and the report was accepted.

November Board Meeting. It was resolved that the next Board meeting be held in New York on November 11 and 12.

Meetings with Michigan Chapter. On Friday evening, the 15th, the members of the Executive Committee were entertained by the Michigan Chapter at the Detroit Golf Club. This gathering of architects was well attended by members of the Chapter and by members of the Michigan Society of Architects, which was then meeting in Detroit. Following a most enjoyable dinner, at which more than sixty architects were present, there were informal talks and discussions by the Institute representatives and by local men, on the problems and joys of the profession. It was the sense of the meeting, which adjourned at a late hour, that everyone present had heard some message or found some new inspiration, which would help him to better things in his practice.

On Saturday, the 16th, the officers and directors of the Michigan Chapter entertained the Executive Committee at luncheon at the Detroit Boat Club, and this occasion, like the preceding one, was utilized for the making of new acquaintances, and for establishing a closer understanding between the National officers and the Detroit architects.

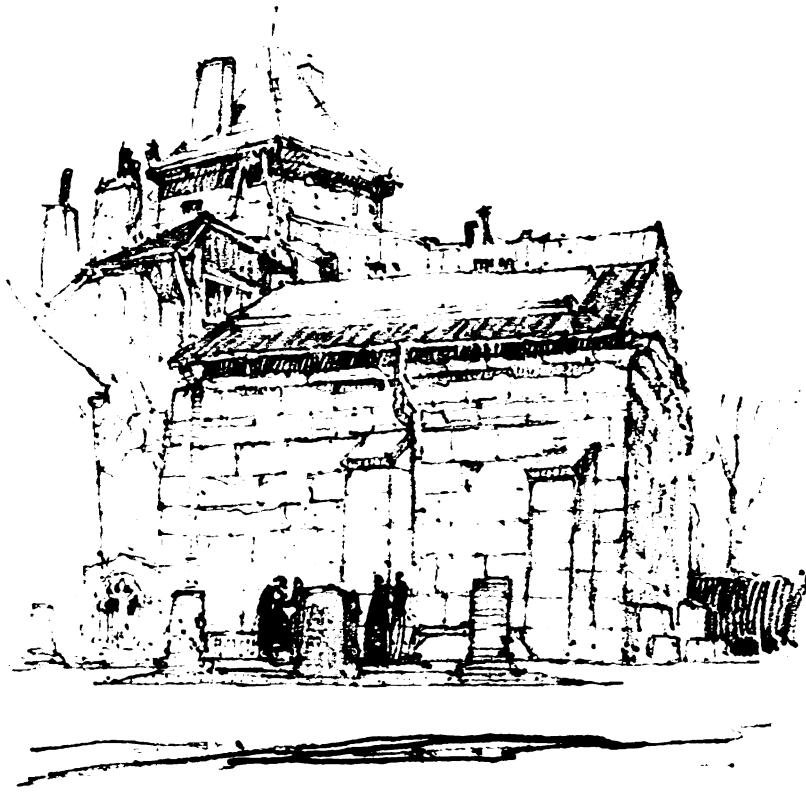
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Light-face numerals refer to information published in the Journal during 1919. Black-face serials refer to the Structural Service Book Volume I, a copy of which is in the possession of every architect, engineer, builder, or manufacturer who subscribes to the Journal.

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LES BAINS
LE ROMAIN TEMPLE OF DIANA
10

After a drawing by Louis C. Rosenberg

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Shadows and Straws

HAVE YOU EVER BEEN BITTEN by the quality standardization bug? It is a persistent little encephaloid, unclassified as yet by the entomologists, but its proboscis is laden with some subtle poison, the effect of which seems to be agreeable to a goodly number of people. Soon after the sting, which appears to be painless, the brain becomes aglow with the pleasant dream of a standardized universe, in which everything from a pin to a planet has been classified, catalogued, indexed, numbered, cross-referenced, and then settled forever. In the matter of making buildings, the standardization passion is manifesting itself to an annoying extent. Everything is to be standardized and resolved into a finality. Then, with the help of the various "services" that exist, whereby we may have, for ten cents, or for nothing, the detailed plans of any building and thus possess ourselves of the brains of our best architects, we shall be certain of creating a great American architecture. If the quality standardization bug has pricked your skin and infected your being properly, this prospect is a joyous one. A building will be put together with no more difficulty than that which is involved in the dictation of a series of combinations in which letters and numbers will not only write the specifications but produce the plan and design.

You will borrow a door from Mr. White, a classic colonnade from Mr. Black, a loggia from Smith, Brown & Jones, a roof from Mr. Green; by a minute arrangement of decimals you will, of course, be able to borrow the whole or any small part. Then from your standardized list of standardized materials you will prescribe,

by number and letter, the standardized materials that are to go into the standardized building. The standardized process of creating any building can be thus compressed into a standardized half-hour of standardized study, or perhaps an hour if one is not too busy. Architecture will have been reduced to a practical profession, and business men will worship at its shrine. They will applaud a system, where they once frowned upon an art!

STANDARDIZATION OF ANYTHING in respect to quality is almost always a compromise. It is the result of that popular conception of law as a cure for any given situation. A standard is only a law, and a law is only a compromise. It is invoked because society, having found no way to stimulate and produce an honest and kindly human relation, resolves to try to compel honesty and kindness through the penalty or fear of punishment, for a law without a punishment provided for infraction would be no law at all. Slowly and painfully the world is coming to see—at least that is our hope—that law is not the answer; that law does not remove causes, except in a few cases and by indirection; that punishment does not produce human kindness, but quite the contrary. Prison reform is already an accepted need.

Now quality standardization is a compromise, resorted to because, under our competitive system, we have found no other way of insuring a quality in products upon which we could rely for safety and durability and appearance. It is the struggle for profits which has broken down quality in both men and things. Science and invention, the beneficial functions of which are

to improve and perfect, have more often been used to cheapen and imperfect. The condition has reached a stage where it has become necessary to put an end to some of the cheapening, for men have gone so far in this blind struggle for profits as to be willing to risk the lives of those who build and of those who live in the buildings. Manifestly this cannot go on, and certain standards of manufacture have already become accepted as insuring safety at least.

But can you imagine anything more joyless than a world reduced to standards? Our industrial process has broken the heart of man with its pitiless monotony, and yet there are those who would gleefully monotonize it still further by standardizing,—wherever they could lay hands upon a product that had not yet been inhumanly standardized by the process of machine manufacture. It is always the product, and not the man, which gets consideration, and yet it is by these very processes of substituting one autocratic brain for many democratic brains that we have debrained our workers everywhere. The brain atrophies, like everything else, when not used! And it is useless to debrain a population by removing the need for brains from its working tasks and then expect to educate it in its idle moments.

STANDARDS OF SIZE WE MUST HAVE, undoubtedly, but let us be chary of applying them indiscriminately to quality and always mindful of the fact that they are compromises—stepping stones, if you will—toward a better system of production and manufacture; toward a system wherein men shall be encouraged to exercise their brains and their love of doing good work, in order to make things better and more beautiful. No standard can be a finality, but only a halting-place. Generally, it is a compromise between the best and the worst; seldom is it based on the best. Yet there it stands, when created, as a difficult barrier toward betterment. Man is not encouraged to do better, but to be content with the standard, which means mediocrity, for that which is not the best is mediocre. It answers the purpose for the moment, but it leaves the taste of staleness in the mouth.

I believe that, in practical attempts at standardization, the American Society for Testing Materials has done valuable work, and that

there is a proper function for the Bureau of Standards and other bodies doing similar work. But until we have an *American Society for Preventing the Atrophy of Brain and Body under our System of Standardized Production, and of Thereby Reestablishing the Principles of Liberty and Equality upon Which This Republic was Founded and of Securing to All Our People Who Work with Hand or Brain the Right to a Wholesome Physical Existence and the Equally Precious Right to Exercise Their Brains and Their Creative Impulses in Their Work*, we shall find that standards are of small avail in helping us onward in the only direction that claims our interest—a better land, giving more happiness, more freedom, more art, and ever more and more of all these things. Then we shall have found the only reason why industry has a right to exist—for the service of mankind. Quality standards and standardists alike will have disappeared, along with the other patent remedies, born, as they were, out of the brains of doctors who were trying to cure a disease they were wholly unable to diagnose.

And it hardly seems necessary to dwell upon the fact that the whole process is a failure from an economic point of view, for we are always finding that our dollar buys us less, even after the standardists have wreaked the full measure of their passion. It ought to be apparent that we are traveling on the wrong road, but we are like a mad mob, caught in the toils, and seeing nothing to do but move on with the rest, lest we be crushed in trying to escape. Only Thought will save us, and for most people Thought is bound hand and foot by the manacles of Self-Interest. The Standard is the only answer of which they are capable, although the whole world today is protesting against the barren monotony of life under the lash of standardized industry.

Architecture and quality standardization are violently opposed to each other. The one is based upon invention and creation, upon the search for beauty, the quest for perfection, the joy of expressing joy in work; the other is based upon the relentless servitude exacted by the law of profit, upon work made into drudgery, upon life reduced to the pulsation of a machine and harnessed to the clang of a bell, the shriek of a whistle, the tick of a clock, the calendar on the wall. Heaven deliver us from the quality

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standardists and their ways! They mean more subjugation to the mind of man.

"I have systematically tried to turn fiction to the good account of showing the preventable wretchedness and misery in which the masses of the people dwell, and of expressing again and again the conviction, founded upon observation, that the reform of their habitations must precede all other reforms, and that without it all other reforms must fail."

Thus wrote Charles Dickens sixty years ago, but in the land that Dickens has peopled with immortal characters, habitations are still wretched and misery still abounds. All over the world there is a critical condition, ranging all the way from squalor and wretchedness to more or less acute degrees of discomfort. The architect, studying the situation with an open mind, may well conclude that never, since people took to living in houses, would a dollar buy so little in house value, and that never have living conditions been relatively more oppressive and more difficult. Between the acute shortage in houses on the one hand, which bears heavily upon slender incomes, and the equally acute shortage of servants on the other hand, which is annoying to those of larger incomes, an architect may well be convinced that the time has come to search for an entirely new method of housing people of all grades and conditions—a method by which convenience and efficacy would take precedence over every other condition, so that houses would and could be conducted with a very considerable diminution in the burdens of housekeeping. And, if he has carefully studied the question of the house, as applied to all humans, he will be convinced beyond the peradventure of a doubt that nowhere are convenience and efficacy so badly needed as in the homes of those who live meagerly and patiently within the limits of the workman's wage. How to build houses of this latter kind, within reach of the rent that can be paid, the architect knows not, so costly has building become.

THE PROBLEM which Dickens discovered and concluded to be fundamental to all other reforms is tangled up with many complexities. I wonder if even he was aware of what housing reform really means. What would he have said

of the efforts that England has made in the past toward a correction of the preventable wretchedness and misery in which the masses of the people dwell? We credit Charles Dickens with having been a pioneer in many reforms. Prisons are better today in England because of his story of Marshalsea, and because of Charles Reade's "It Is Never Too Late to Mend." But houses, alas, are no better, and England, faced with a problem of housing its workers through the coming winter, may well view the prospect with feelings of alarm.

All over the world, or at least in the civilized parts of it, the same situation prevails, and what Dickens said sixty years ago is truer than ever today. In his own land there have been many efforts to right the wrong, but the latest effort to which Parliament has given its sanction goes much further than anything yet attempted. The new Housing Bill is significant in two ways. Those bills which have preceded it have been in the nature of permissive laws, designed to encourage better housing. They gave power to municipalities to go into the housing business. The new law is compulsory. It obliges communities to provide decent houses, under penalty of having the sovereign State step in and provide them by assessing the cost on the community. A time limit is prescribed in which all towns and cities must present a diagnosis of their needs and a plan for providing for them.

NO STATE HAS EVER GONE so far in attempting to deal with the question of houses, and yet England has gone much further than that in the present bill, for she has embarked upon the principle of a subsidy to house-building. In plain words, she has decided to pay a part of the rent for good houses out of the national treasury! This is certainly a concession which was wrung from her by housing conditions such as constituted a menace to her safety, and it cannot, by any stretch of the imagination, be considered as a cure for the housing problem. You cannot subsidize rents without increasing taxes, and the very bill itself fastens an increased tax rate upon the towns it obliges to provide houses. A penny in the pound is the new levy prescribed, and the proceeds are to be applied to the interest and upkeep charge on the houses. But as it is expected that even this new tax will not provide sufficient funds to pay the

charges, when added to the rentals received, the State agrees to stand the difference, whatever that difference may be. In London alone it is estimated at \$5,000,000 a year!

Here is no new principle, but the application of an old one. Once again the State is besought to help undo the evil wrought by its citizens, under the theory that the cost of undoing it must be borne by the whole people and not by those who caused it. But the situation, serious as it is, is not yet sufficiently dangerous to compel England to her senses, although one wonders, day by day, how far toward the edge of the precipice she is willing to go. The answer of the Trades Union Congress at Glasgow was seemingly unmistakable! But even when Parliament was aware of the danger, the old vested interests were able to secure a Land Acquisition Act which will go far to nullify all the benefits that were expected to accrue from the passage of the Housing Bill.

IN OUR OWN COUNTRY we might pick up a newspaper anywhere, and read such an observation as this from the *Detroit News*:

"Families facing the elements in tents on the threshold of winter, other families being put on the sidewalks, other families seeking refuge with charitable organizations, and all with money to hire a roof at a fair price, in a city of the size and caliber of Detroit, represents a situation the public can view with nothing but deep concern.

"With the single difference that the condition is giving warning as it advances, it is analogous to a disaster by fire or flood or plague, whereby the city is reduced to emergent measures to check suffering and restore stability.

"Clearly the municipal government must face it with the same determination and resourcefulness with which it would cope with any other abnormal visitation; plans offered are many and various; but the responsibility is on the city government, and just as if a tidal wave had driven thousands of Detroiters out of their homes, so must there be measures of relief for the Detroiters who have been driven from their homes at this time through no fault of their own.

"Out of the multifarious suggestions, or from some constructive mind yet to be plumbed, a plan must come straightway whereby this city can release itself from the menace of a disaster that grows blacker with every passing day. But leadership rests with the elected government of Detroit, and the public expects it to rise to the needs of the occasion."

The "housing problem" is spreading upward, attacking not only the poor but those much higher in the scale. It will continue so to reach upward, yet the man who today in Detroit put

forth the one fundamental upon which a solution of the housing problem might rest would no doubt be rent into rags and tatters, or even crucified as well. The shoe has not yet pinched hard enough.

NEW ZEALAND has just had a Housing and Town Planning Conference of a very intelligent kind, such as is badly needed in the United States, which adopted, among others, the following resolutions:

"That the principles of town planning should be applied to New Zealand, and town-planning schemes prepared without delay. That for this purpose legislation is necessary in the form of a Town Planning and Housing Act. That there be a Town Planning and Housing Department, and an expert town-planner appointed, the department to have supervision over all town-planning schemes. That it is advisable to appoint a Central Town Planning Commission to consist of the town-planner and four other experts in engineering, architecture, surveying, and public health.

"That the betterment principle (to be payable either in land or in money) embodied in Clause 19 (7) * should be amended to provide that a special valuation should be made in areas covered by town-planning schemes at the earliest possible date; such valuation to serve as a standard of comparison for the purpose of levying a special betterment rate when it has become evident that land values have increased, owing to preparations for or the carrying out of a scheme."

Once again, if these provisions are enacted into law, New Zealand will have gone a long way ahead of the mother country, for she will have provided against the blight of speculation in land and the mutilation of her projected improvements through high land values held at her throat. Indeed, the time has come when it is necessary to publish abroad the fact that no town plan, or city plan, or any town-planning legislation is worth the paper it is printed on unless it provides for land control, and that, without such control, all plans for housing reform are as moths to a candle.

WHEN THE WORLD NEEDS so much in food and shelter, the rescue of ancient ruins seems almost unworthy of an appeal; yet it is difficult not to hope that the English Government may find some way to preserve the ancient city of Caerwent. It is announced that the site upon which it stands is to be sold, and there are fears

*The Town Planning Bill of New Zealand, published at length in the Journal for December, 1918, shows the original clause as providing that the State should receive one-half of the value added to land through any town-planning scheme.

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that the ruins will thus be exposed to destruction. The site is in Monmouthshire, and the city was the Venta Silurum of the Antonine itineraries and the Caruen of Domesday. Its walls, still standing, are upward of twenty-five feet high, while two of the gateways are in quite as good order as when the Roman legions marched through them for the last time, and that was fifteen centuries ago.

The London Society of Antiquaries, in exploring the site, made discoveries of great interest, for there came to light foundations indicating great buildings, both public and domestic, baths, a forum, temples, frescoed panels, mosaic floors, and a great variety of pottery and coins. Perhaps it is only a clinging sentiment that makes us wish for the preservation of these things, but may it not be that we instinctively hug to our bosoms what shreds of Old-World beauty we can find as an unconscious protest against the lack of beauty in our new world, even though we remain equally unconscious of the fact that the ugliness we have made of our cities of today is quite our own fault, and not an unhappy accident.

ALREADY, IN RESPECT TO the vanishing Old World, the English press is often calling attention to architectural losses. No one who cares for these things, for no matter what reason, can contemplate their increasing destruction without a keen regret. From the *Daily News* (London) we clip the following:

"One of the most beautiful rows of Queen Anne and Georgian houses in London is to disappear—the score of delightful dwellings on the north side of Clapham Common.

"For years they have worn a semi-forlorn aspect, and the thick curtains of ancient creepers have wrapped them as in a shroud. The creepers hide much of the beauty of the architecture—said to be from the designs of Wren—but enough is visible to show that the disappearance of these houses will be a real loss to London.

"The houses are on the site where the new Westminster Hospital buildings are to be erected—a scheme postponed on account of the war. The row is uninterrupted by any modern incongruity; there is spaciousness between the houses and the road; and the shadows of old elms fall on the gardens. The doorways are most charming, and the wrought-iron gates of fine scroll-work—some with coats of arms—are a delight. So is the fine brickwork of rich warm red, and the red tiling of the roofs.

"A visit to two or three not long ago showed them to be in surprisingly fine preservation inside—the good eighteenth century woodwork panelling, for the most part, nearly perfect. What will become of all this furnishing of

the dignified but homely rooms? One of the larger houses recalls some old spacious inn, with its wide staircases, landings, and many doors and rooms.

"People of quality and well-to-do City men make up most of the unwritten history of this row, but it has its fame as containing a house in which Captain Cook lived, and another in which Macaulay went to school."

OF THE NEW TENDENCY in organizations we had something to say last month. Significant among the activities of which news is constantly coming to hand is the following from the *New York Times*:

"About 200 engineers, draughtsmen, topographical men, and architects met last night in the Bronx Building, 177th Street and Third Avenue, to organize the Bronx Local 16388 of the Union of Technical Men. Of those present, 80 per cent were said to be in the employ of the city. It was said that the first class to be organized would be the draughtsmen, and that as soon as this was done they would ask for a \$50 a week minimum wage.

"Walter V. McCoy, chairman of the Committee on the Extension of Organizations, presided. He declared that dignity was the bulwark that had stood between technical and professional men and their pay envelope. This dignity had in the past, he said, kept them away from association with men who labor. Now, he added, this was changed. Although Borough President Connelly of Queens had come out against the union of technical men, Mr. McCoy said they were 100 per cent organized in Queens.

"Mr. McCoy said that recently one morning newspaper had carried an advertisement for first-class draughtsmen at \$28 a week and another advertisement for a window cleaner at \$36. He said the following weekly wage scale would be the ultimate goal for the Technical Men's Union: Junior draughtsmen, \$30 a week; draughtsmen, \$50, and gradually up to designers at \$100 a week. He said the technical men were doing only that which other labor bodies have done in this country, and that they would demand \$30 a week of seven hours a day and half a day Saturday. In New York City alone, he declared, there are 2,500 men in the union."

From London comes the following, given out to the press by the Press Committee of the Clergy Association:

"For many obvious reasons the clergy could not form a trade union. For one thing, the clerical profession is not a trade, and for another, the clergy are precluded by the sacred nature of their calling from even contemplating the use of the strike weapon. However, the need of some organization among the clergy has been felt as keenly by others as by Dr. Lloyd Evans, and this feeling has resulted in the formation of the Clergy Association. The constitution is thoroughly democratic, and is so framed that any member of a deanery branch who is suffering from any hardship or injustice may make his case known speedily, and feel that, if his complaint is found to be justifiable, he will have the whole weight of the Association behind him in the demand for a remedy.

"The Association endeavours to secure to all clergy a stipend sufficient for all reasonable requirements of life, work, and responsibility, and does not hesitate to demand the attention of the bishops and leaders of the Church to avoidable hardships and anomalous inequalities, and to abuses of patronage. There is no diocese in which the success or failure of diocesan schemes does not depend largely on the support of the parochial clergy, and if the clergy only unite along the lines of the Clergy Association, there are ways in which they can exert very strong pressure by perfectly legitimate means. The Association is, of course, dealing with the important question of dilapidations to which Dr. Lloyd Evans refers.

"Two things are necessary—loyalty and keenness; and we have found plenty of both, waiting and eager for organisation."

Also, the English Institute of Journalists had its recent conference at Birmingham, where Mr. Frederick Hinde, its president, said, "The time has come when the Newspaper Society, the only body representative of the employers, should be invited to join the Institute and help in the formation of a council for journalists." Such an attitude is indicative of that larger conception of the coming functions of organizations, a conception hopelessly obscured in most present-day cases by the shadow of self-interest. The frantic haste in which vocations are organizing today is inspired almost wholly by a desire to protect a business interest, and yet it is the height of folly for any trade or vocation to believe that alone it can save itself. All industries, trades, and professions, must stand or fall together. Advantage taken by one trade or vocation of its power to dictate terms only leaves the whole fabric of industry floating without a rudder. The cost of benefits obtained in this way has to be borne by the other trades, industries, and professions to which any one trade, successful within its own autocracy, is tributary. Then there comes a consequent readjustment, a fresh attack all around, and a new unit of value has to be created.

The process is not new; it is old. Hitherto it has been on a comparatively small scale. Organized workers have represented a small minority of those who earn a wage or a salary. They have managed, in most cases, temporarily to better their condition. The cost of that betterment has been charged back upon the products to which their effort was tributary. The cost, thus distributed over a large consuming public,

produced a slow but steady rise in the cost of all things consumed by the public. Under the influence of war, the rise was greatly stimulated, and is often assigned as the cause of the present condition. But it is not the cause. It is an acute attack of what was a chronic condition, and it ought to be plain to the simplest mind that if all forms of labor, whether hand or brain, now organize to secure higher wages and shorter hours, our present economic system must absorb the cost. That it can only do by increasing the cost of things to the consumer ever faster and faster, and it is in the midst of this vortex that we at present find ourselves.

Without a plan for relief, the situation is hopeless. Increased production would be the answer to a very great extent, provided that the profits from that increase could be so distributed as to confer a genuine betterment upon the producers. Such a distribution we have never been able to effect. Too large a proportion has gone to non-producers. The battle of the world today is to devise a new method of distributing the surplus profits of production. The struggle is too often obscured with senseless terminology, where the terms Bolshevism, socialism, anarchism, syndicalism, Marxism, are heaped upon all forward-looking suggestions. As it stands in the United States, we have, with some few exceptions, neither plans nor leaders. Both the employed and the employing classes are merely arming themselves for a conflict of which the outcome can only be nil. The problem will not down. "A dog-fight does not end when the under dog becomes the upper."

Is England today in the lead? In spite of her feverish industrial unrest, have her labor leaders a program which is aimed at the betterment of all society? No other program is worth a thought, and our hope is now that the President's industrial conference may produce such a program, and that it may be couched in language such as all can understand and be devoid of all masked schemes for preserving the *status quo ante*. I do not believe that we can ever go back to the old industrial order, and that the effort to do so, if persisted in, will push the western world over the edge of an abyss too horrible to contemplate.—C. H. W.

Possibilities in the Coöperative Organization of Architects' Offices and Draughting-Rooms

By ROBERT ATKINSON

Head Master, School of the Architectural Association, London

AMONG the contributory causes of that "architectural inefficiency" which is the subject of so much contemporaneous discussion, perhaps the greatest is the lack of business organization amongst architects themselves.

It is said that the architect loves to call himself an artist and to cultivate that irresponsibility so dear to the Bohemian, or to shelter himself behind the mask of professional tradition and to cover his defects by the thought that such things are unprofessional—a fly-away artist or soulless dummy, according to temperament, but never, or seldom, a person with a grasp of £. s. d. In other words, a person for whom the average client lives in constant trepidation under the fear of unforeseen expenses.

That these things are true of some architects is scarcely to be denied. How large a proportion they bear, in numbers, to the whole of the practising profession, I do not know, but after an experience at the hands of such a practitioner, one can, therefore, understand the tendency of manufacturing firms to dispense with the architect and to secure a fixed firm estimate for the work from a builder, including plans, or to employ only those few architects whose business ability approaches most closely to the required efficiency, with very little regard for the purely architectural aspect, as it is generally understood. Few architects can hope to compete against such large contracting establishments, with their efficient systems of costing and organization, and if the same thing is to become general in the architectural world, it will most surely be at the expense of the individuality of the designer and of the separate existence of the individual practitioner, a loss which, from the artistic point of view, will hardly bear thinking about. A business man controls, we will say, the general organization; he handles great cash accounts, smokes large cigars, entertains largely and advertises extensively; he employs two hundred people—designers, draughtsmen, costing clerks, surveyors, engineers, and clerical staff; he can give a fixed firm estimate for any

job, turn out the drawings necessary in twenty-four hours, and, when necessary, undertake contracting work. Each section of his organization does only its quota of work; the designer passes on the sketches to a draughtsman, the draughtsman to the engineer, the engineer to the surveyor, and thus each individual is tied to his particular job, cannot become an all-round architect and cannot hope to establish business on his own account in face of such competition, or provide the cash necessary if he could overcome the other obstacles.

It is the business man who arranges the affair and the artist who provides the oil for the works. The difference between such a firm and the average large contracting firm is difficult to find; the one is called Building Ltd., and the other Architecture Ltd.; that appears to be all.

Limited liability companies* for architecture, or something of the sort, are within the bounds of possibility in the very near future, and to counteract such tendencies is surely the aim and hope of all true architects. It goes without saying that a more efficient education in practical and business affairs is an essential element in any reform, and I think some sort of public educational campaign on architectural matters, conceived in a large spirit and free from personal ideas, engineered from a central department for the good of the profession generally, would do a great work in dispelling from the public mind the idea that architecture is a case of the lowest estimate and in awakening public interest generally. Such a campaign would need to be worked through the popular journals and graded to awaken interest progressively. All this, however, leaves the problem of the small professional man with limited resources very much as in pre-war days, and, possibly, by his inability to rise with the times, in worse case than before. It is with the idea of finding a solution to this problem that the following ideas have been penned.

I see no reason why several persons should

*The English term for the American "stock company."

not group themselves together, as presently expounded, and by their combined resources properly organized, combat upon their own grounds the greater firms, at the same time preserving that invaluable architectural quality of "*individuality*," so that in the long future each building would be stamped by the character of its designer and its personality be as convincing as works by Brunelleschi or Perruzzi.

The fundamental idea is that as each architect in practice pays from his commission a certain percentage for office and establishment charges, which we will say amounts to one-third of his fees, it is obvious that a reduction of expenses and greater efficiency could be secured by several persons combining and pooling their office organizations; would it not then be of great advantage for a dozen young men, including if you like the greatest divergency of temperament and capabilities, to run in harness for their mutual advantage? The combination might include specialists in designing, town planning, decoration, construction, engineering, surveying, and business.

Each would look after his own clients and pay into the common fund the one-third of his fees which his individual office would cost; there would thus be no question about his not receiving a due share of profits. From this general fund all office expenses would be paid, rent, cost of materials and cost of drawing office. The drawing office costs would vary according to the size of the job, but as each would be in proportion to the funds paid in, it would equalize itself. The volume of work provided would enable the co-partners to employ an efficient general manager for office work; they would be able to keep fully occupied a consulting engineer and a quantity surveyor, with the added advantage of having always available for consultation in difficult cases their various expert co-partners.

Consultations of this sort would be paid for out of general funds, at agreed rates, and co-partners not fully occupied could lend themselves to the general office at salary rates.

Work in which it was necessary for any particular co-partner to cooperate with another would be shared as joint work, and work introduced directly through the executed work of any

particular man would remain the property of that co-partner.

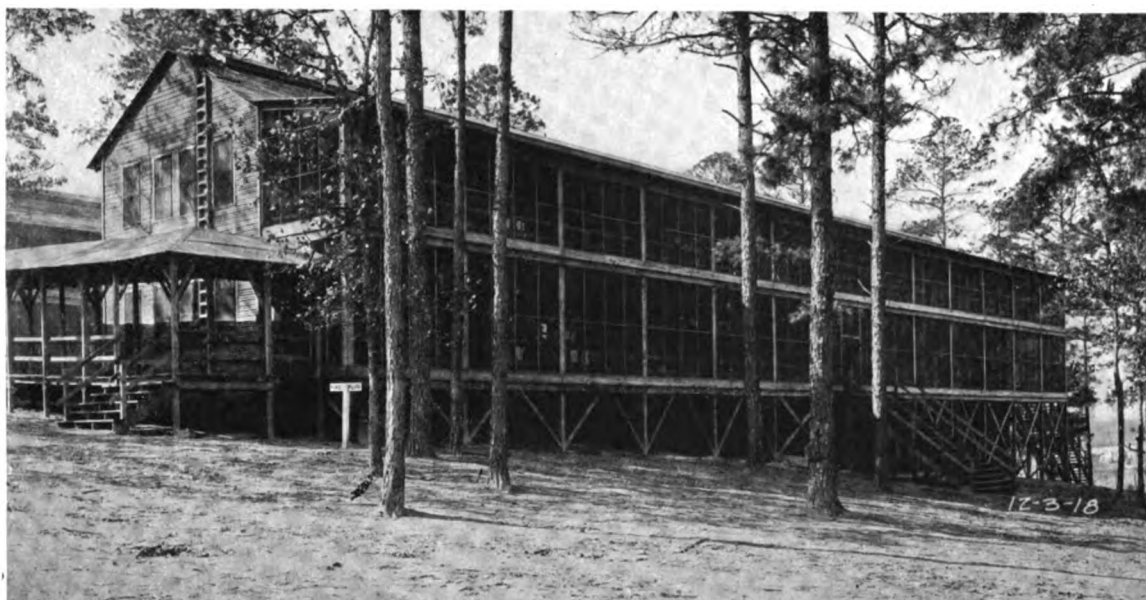
To ensure an adequate contribution to general funds, a minimum payment of £100 per annum might be levied which, representing as it does, on a 5 per cent basis, jobs costing £2,000, would be within the reach of almost any young architect and would not tend to exclude men just commencing practice. Regular meetings of co-partners to transact business would be held, and, finally, surplus funds would be divided between members in the ratio of their contributions.

It seems to me that some such sort of working agreement, preserving, as it does, to the full, the present independence of the architect, yet giving the advantages of a great organization in addition, and the chance for every clever man to secure an independent practice with the least possible expenditure and the greatest possible chances of success, would go a long way toward a solution of the problem of efficiency, by reason of the powerful organization possible after a certain amount of experience in running.

The architect has a tendency to over-emphasize the idealistic attributes of the profession; by so doing he gives the impression of being a dreamer rather than a doer, and so undermines public confidence. Whereas, what the profession needs is more certain or more stable conditions of employment, and, whilst under such a scheme the individual need not be less artistic or less irresponsible, the general organization at his back would counteract his deficiencies and quite possibly make a success of what would otherwise be a failure in business.

The collective experience gained would permit a much more rapid accumulation of business acumen than is possible by the slow process of a bare living practice, even if each of the joint practices taken separately was of the threadbare order.

To prevent absorption of the cooperative organization, or its exploitation by single members, it might probably be a good thing to provide that a maximum earning be fixed beyond which point a member would be required to resign and to establish an independent office.



WARD BARRACKS K-8

Army Hospitals in the United States

By RUSSELL H. KETTEL*

AT the time of the entrance of the United States into the war, in 1917, the army had approximately 10,000 beds in hospitals in this country. Of these, 5,100 were at army posts, 1,500 in general hospitals, and 3,400 along the Mexican border, in base hospitals, erected in decidedly temporary fashion to meet the emergency arising from the concentration of troops in that locality. In less than two years' time the standard bed capacity had grown to 112,000 beds, the medical personnel on duty here had jumped from 7,796 to 315,980 officers, nurses, and enlisted men, and over two million cases had been treated—a number sufficient to have populated the city of Chicago at the time of the last census in 1910.

A classification of the hospitals operated during the war, which will form the main divisions of this discussion, follows:

	Buildings	Beds
I. 48 post hospitals (minor additions)	365	6,056
II. 62 hospitals of new construction	3,597	88,460
III. 39 hospitals in leased buildings	659	29,383
†149 hospitals	4,621	123,899

*Captain, Sanitary Corps, U. S. A., Surgeon General's Office, Washington, D. C.

†The 43 hospitals, with a capacity of 4,576 beds, built by the Division of Military Aeronautics, are not included in the table or discussion in this article.

I Post Hospitals

Of the three classes, the post hospitals presented by far the smallest problem. The addition of a ward or so, a barrack-building, and perhaps a new mess and kitchen generally met the increased demands at these hospitals, and as the plans from which these buildings were built were usually the standard plans used for the hospitals of new construction, they will not be discussed here.

II Hospitals of New Construction

This second classification will be considered under three broad groupings, the *Early Camp Type*, the *Knox Type* and the *Bragg Type*.

In the plan of the Letterman General Hospital in California, we can see the precedent on which the early camp type of hospital was first laid out. Thirty-two of the National Guard and National Army cantonment hospitals were built during the summer of 1917, with certain minor variations, from which grew the original schematic block plan. The symmetrical arrangement, with the administration building at the

CLASSIFICATION OF MILITARY HOSPITAL UNITS

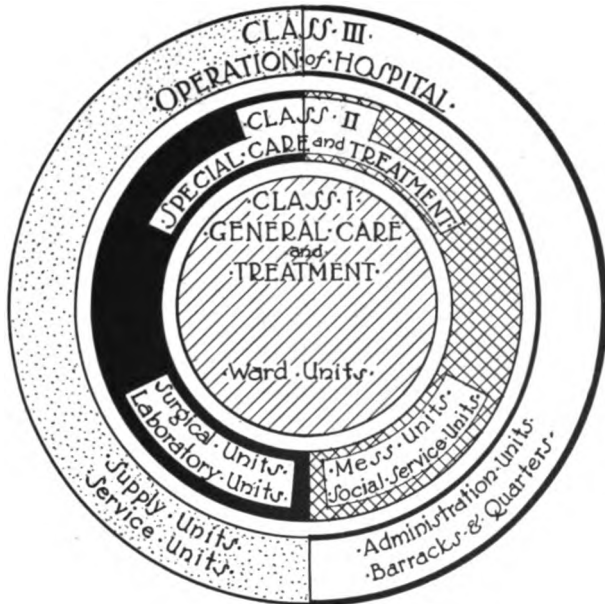


FIG. 1

head, the operating and laboratory buildings in the center of the hospital, the mess and kitchen on axis at the rear, wards extending in both directions from the central corridors, and the housing of the personnel in groups about the outside and within an inclosing roadway, are all fundamental reflections of the Letterman plan. Other hospitals designed in the fall and winter of 1917 followed this general plan until a rearrangement and grouping of services produced such block plans as the one illustrated in the base hospital, Camp Abraham Eustis, Virginia.

All the plans thus far mentioned are of the early camp type; but few were over 1,500 beds in capacity. A situation arose, however, in the summer of 1918, that called for radical measures when camp hospitals of 2,500 to 4,000 beds were to be built as a result of the plans of the general staff to have 3,360,000 men trained and in France by the following June 30. The factors forcing the situation were as follows: The new hospitals were to be three and four times as large as any hitherto designed; the inevitable shortage of materials and labor had arrived; and medical officers, nurses, and enlisted men in the medical department were becoming exceedingly scarce. It was evident that any hospital constructed along the lines of the prevailing

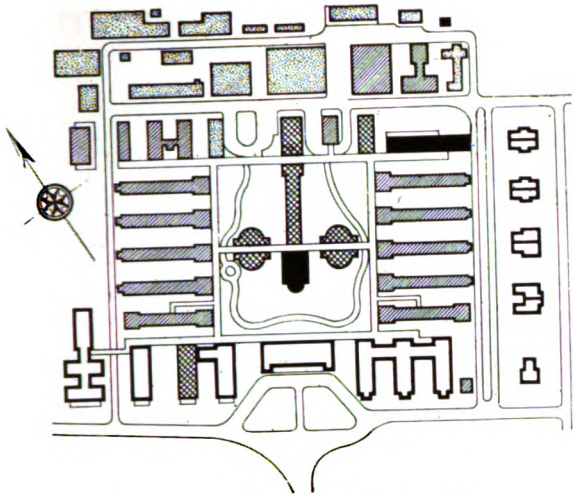
type of cantonment hospital would cover an enormous amount of ground, that it would consume more materials and require more labor than were at the time available, and that the administration of such an octopus of small units could not be effected by the limited allowance of personnel that could be recruited. It was, then, a case of military necessity that the head house, or Knox type of hospital, with its high ratio of 100-bed wing wards, with the limit length of 230 feet, was developed, and in a number of instances built before the signing of the armistice brought the construction program to an end. The plan shown of Camp Mills on Long Island, New York, is of this type. The various advantages of the new layout over the old are at once suggested by a comparison of the plan of Camp Abraham Eustis with that of Camp Mills, bearing in mind the fact that the two plans are drawn at the same scale and that the former is a 750-bed hospital while the latter is one of 2,000 beds.

For a smaller hospital—one say of from 300 to 1,000 beds—still another, the Bragg type, was designed. It is a pavilion-type hospital, with most of the buildings two stories high and connected by two-story corridors. Like the Knox type the outside walls are made of metal lath and stucco on wood frame with an inside lining of plaster board. It is more flexible than the Knox type, which presupposes unusually level topography like that at Camp Mills.

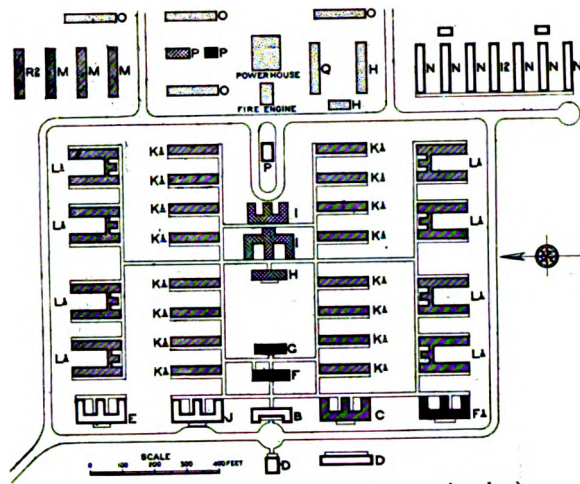
A discussion of the various hospital buildings, which must be limited to the most interesting, will be based upon the classification of Military Hospital Units shown in Fig. 1.

Under the elements of General Care and Treatment are the wards and the auxiliary rooms serving in conjunction with them for the care and treatment of the ward patients. Three classes of cases were provided for: General cases, isolation cases, and psychiatric cases. Provision was also made for officer patients and sick prisoners.

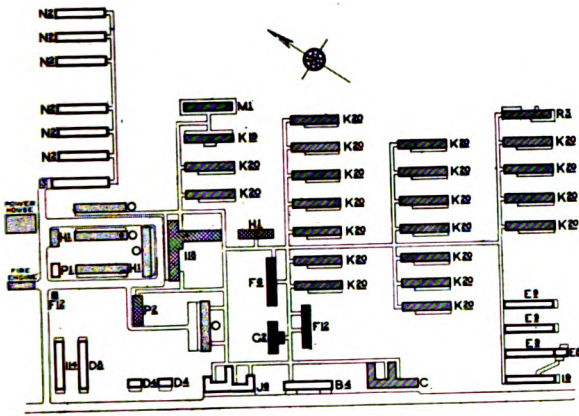
Forty-one thousand beds were constructed of the (K-1) type of ward and its double type (L-1), which was built only at the early hospitals. Each building housed 34 beds with 80 square feet and 900 cubic feet to each bed. The ratio of window-area to floor-area was 1 to 12. For the convalescent and slightly sick patient, of whom there were found always to be a great number in a camp hospital, the two-story ward



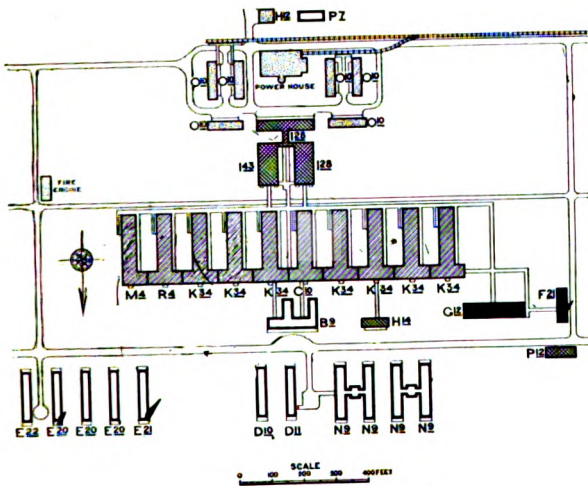
LETTERMAN GENERAL HOSPITAL (A)
Capacity 450 beds



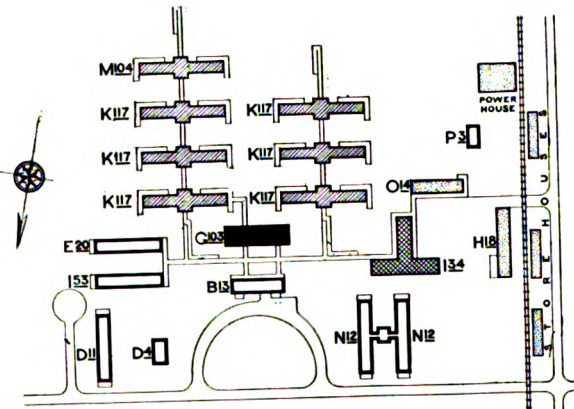
EARLY CAMP HOSPITALS (B) (schematic plan)
Capacity 1,000 beds



HOSPITAL, CAMP ABRAHAM EUSTIS (C)
Capacity 750 beds



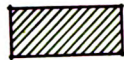
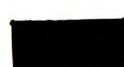

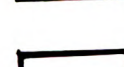





HOSPITAL, CAMP MILLS (D)
Capacity 2,000 beds

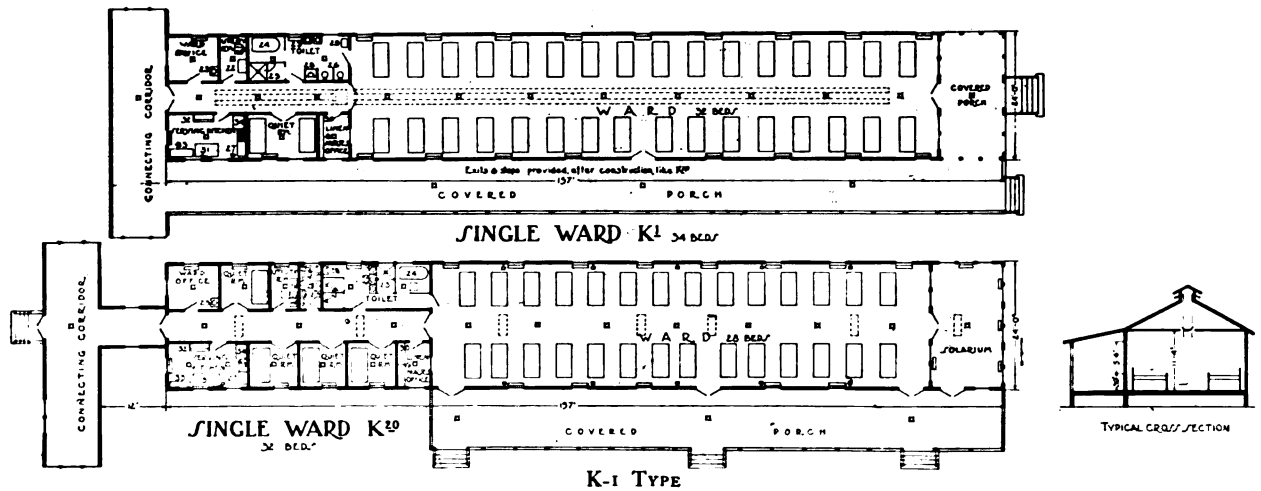


HOSPITAL, CAMP BRAGG (E)
Capacity 450 beds

BLOCK PLANS SHOWING PROGRESSIVE DEVELOPMENT IN THE GROUPING OF HOSPITAL BUILDINGS. THE STAGES OF TRANSITION ARE INDICATED BY THE LETTERS A, B, C, D, E

KEY.

-  *WARD UNITS - GENERAL (K & L) - OFFICERS (C)*
-  *ISOLATION (M) - PSYCHIATRIC (R)*
-  *SURGICAL (G) AND LABORATORY (F) UNITS.*
-  *MESS (I) - POST EXCHANGE (H)*
-  *CHAPEL (P)*
-  *ADMINISTRATION (B) AND RECEIVING (J)*
-  *UNITS - OFFICERS' QUARTERS (D) - NURSES' QUARTERS (E) - BARRACKS (N)*
-  *SHOPS (H) - STORE HOUSES (O)*
-  *LAUNDRY (Q)*



barrack (K-8) type was designed and built to an extent of 27,000 beds. Sixty men were housed on two floors of each building, with a lounge at the center of each floor. The various special services that were included in (K-1) and in wards of its type were omitted in this design as being unnecessary to the class of patient that was to use the building.

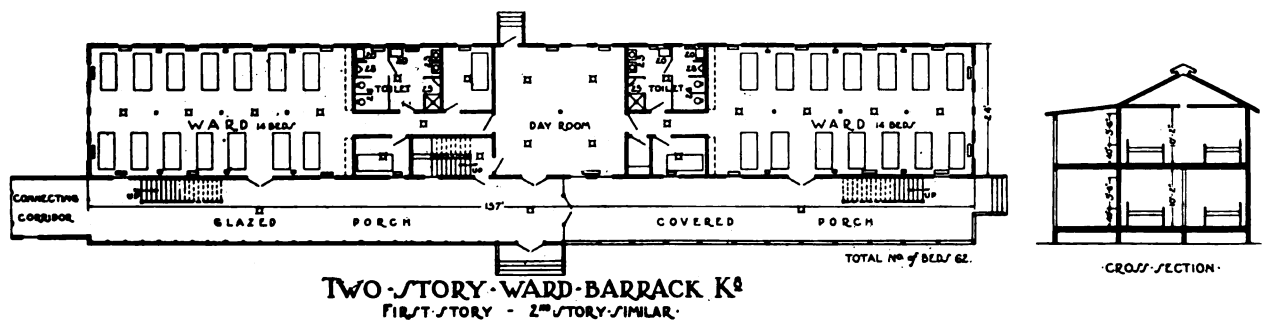
The isolation ward (M) contains the same facilities as the general ward, but is especially arranged to control infection, and includes facilities for sterilizing and disinfecting. The psychiatric ward (R-2) contains the same facilities as the general ward, but is especially arranged for a more secure control and includes facilities for minor hydrotherapy.

The general ward of the Knox type hospital is (K-34) subdivided, when so directed, into the modified form (K-56). The striking feature of (K-34) is the 100-bed ward—a radical innovation. For troops from overseas, among whom the percentage of ambulant cases was very high, and where we were dealing with men who by that time were fairly immune from the general run of contagious diseases, this large

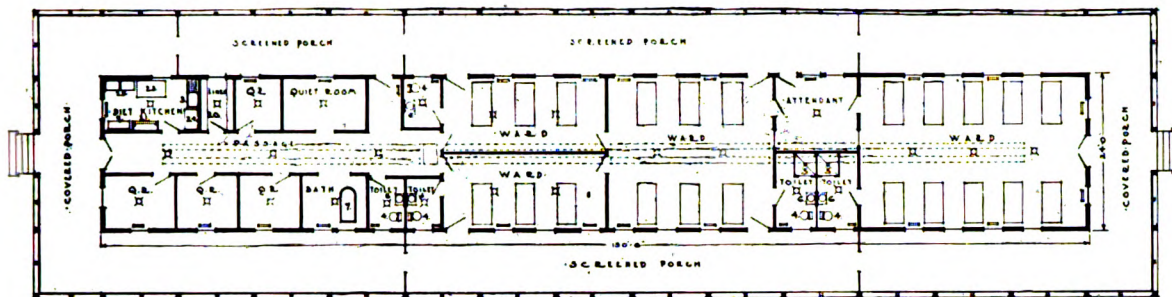
ward offered many advantages. For the green troops constantly assembling at the cantonments, usually 100 sick men are too many to group together in one room without installing a system of cubicals, and some such modified plan as (K-56) is preferable. The two-story open corridor along the ends of the ward should be noted. This passageway is intended to take the traffic of patients going to and from mess, and as much service traffic as possible, out of the head-house corridor in all but very inclement weather. The long porch on the west side of each ward gives a protected open-air lounge, easily reached from all parts of the ward and under direct control of the ward attendants.

The ward building (K-58), a part of the Bragg type hospital, is planned to give the best possible care to troops of any kind—seasoned or unseasoned. A two-story connecting passageway divides the floor unit into two sixteen-bed wards and four quiet rooms, all served from a central diet kitchen and under the control of a single office and treatment-room.

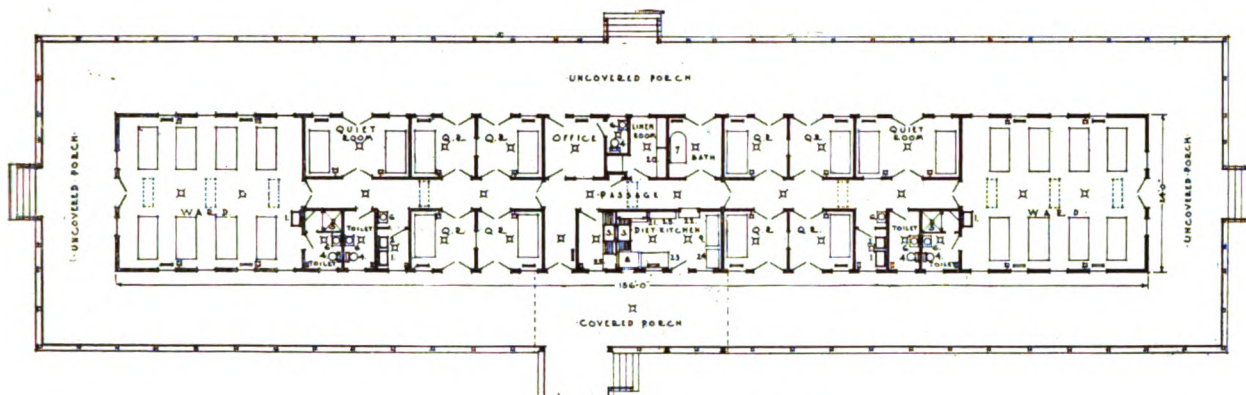
Isolation and psychiatric wards of both the Knox and Bragg type are but modifications



ARMY HOSPITALS IN THE UNITED STATES



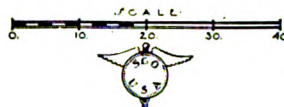
ISOLATION WARD (M)



ISOLATION WARD (M)

MECHANICAL EQUIPMENT

- 1 Line
- 2 Slop Sine
- 3 Work
- 4 Water Closet
- 5 Shower
- 6 Lavatory
- 7 Bath Tub
- 8 Dish Sterilizer
- 9 Electric Store
- 10 Ceiling Height include 11.2



MISCELLANEOUS EQUIPMENT

- 10 Shelves
- 11 Dresser
- 12 Counter
- 13 Table
- 14 Ice Box
- 15 Dish Rack
- 16 Ceiling Light
- 17 Wall
- 18 Radiator
- 19 Ceiling Ventilator

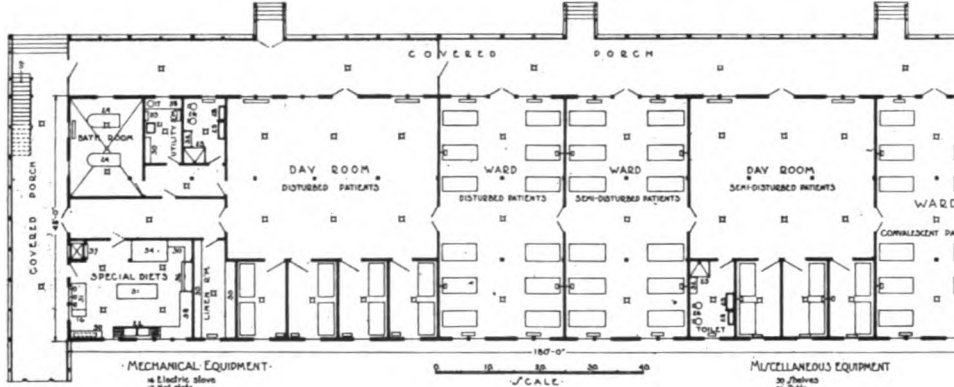
from the earlier designs, to conform with the modified form of their respective general wards.

Four distinct services are classified under *Special Care and Treatment*: Surgical, laboratory, social, and mess. In the case of both the surgical and the laboratory plans there are no definite changes that should be illustrated and described, but rather a steady process of improvement. From the early surgical building (G) and laboratory building (F) to the latest and most complete buildings of (G-12) and (F-21) there has been considerable advance that may best be appreciated from a comparison of plans. The social buildings, consisting of the chapel, hospital exchange, and amusement buildings such as those built by the American Red Cross so generously throughout the list of army hospitals, serve important functions in a hospital, but present no very difficult planning problem. With the kitchen and mess, however, it is quite different.

The patients mess buildings were seen to be so influential in effecting the contentment of the patients and personnel and in offering such a wide range of possibilities between waste and economy in operation that from the outset their development was given a very special attention. The early mess (1) was designed for feeding ambulant patients (figured at about 60 per cent of the total patients), by the system then in vogue in army hospitals and called the "set-up service," i. e., dishes and food were placed on the tables in preparation for the arrival of the patients; the patients arrived at a given hour, ate, and left the mess hall; dishes and scraps were then cleared from the tables by attendants and things cleaned up for the next meal, or for the next sitting of the same meal, if, as was more often than not the case, there were more ambulant patients than seats in the mess hall. This system, at best, was difficult and unsatisfactory. With the enlarged hospitals it became well-



· PSYCHIATRIC · WARD · R² ·

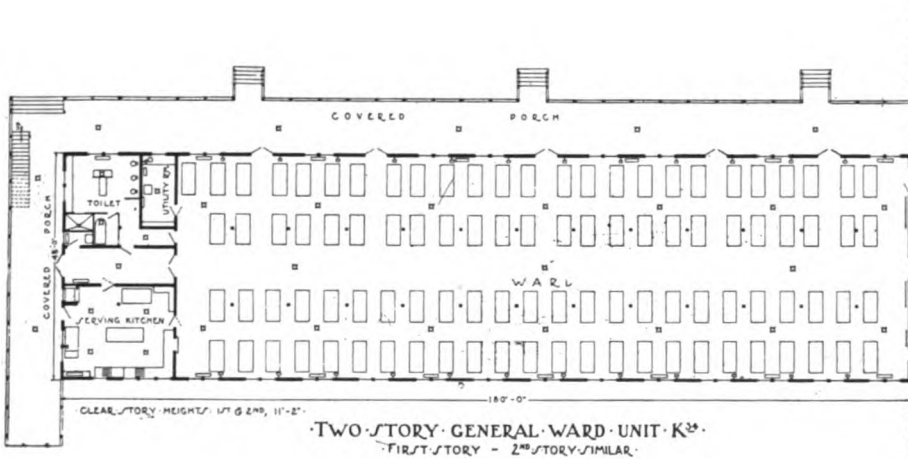
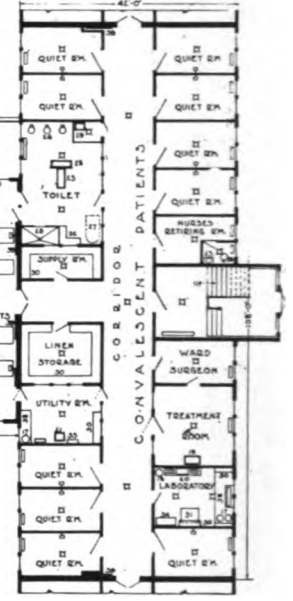


- MECHANICAL EQUIPMENT:
- 14 Electric stove
 - 17 Hot plate
 - 18 Mixer centrifuge
 - 19 Durgano sink
 - 20 Laboratory sink
 - 21 Flooding rim soap sink
 - 22 Wash sink with soap board
 - 23 Lavatory
 - 24 Continuous flow tub
 - 25 Shower
 - 26 Water closet
 - 27 Berkey tub
 - 28 Urinal
 - 29 Soap sink

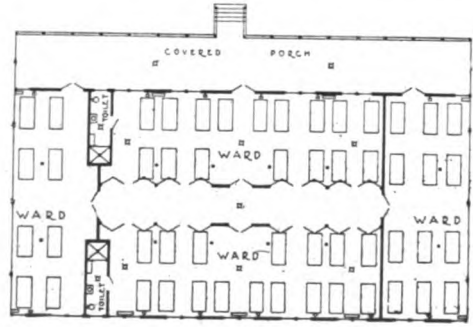
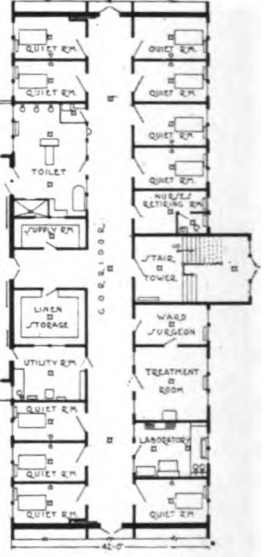


- MISCELLANEOUS EQUIPMENT:
- 30 Shelves
 - 31 Table
 - 32 Stool
 - 33 Bench
 - 34 Refrigerator
 - 35 Tray rack
 - 36 Cabinet
 - 37 Dish washer
 - 38 Counter
 - 39 Calling light in hall light
 - 40 Radiator
 - 41 Ceiling ventilator
 - 42 Fire door

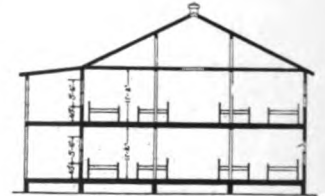
· PSYCHIATRIC · WARD · R⁴ ·
FIRST STORY - 2ND STORY SIMILAR.



· TWO-STORY · GENERAL · WARD · UNIT · K³ ·
FIRST STORY - 2ND STORY SIMILAR.



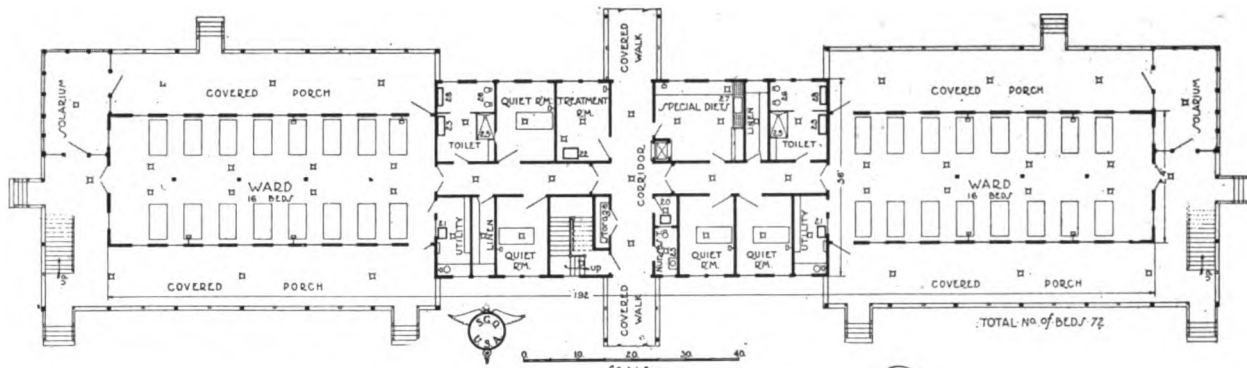
· K³ · SUBDIVISION OF K³ INTO FOUR WARDS



· TYPICAL CROSS SECTION ·

K 34 AND K-56

ARMY HOSPITALS IN THE UNITED STATES



· TWO · STORY · GENERAL · WARD · UNIT · (K²⁹) ·
FIRST STORY - 2ND STORY SIMILAR

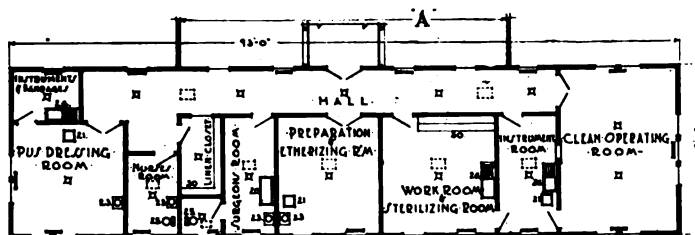
nigh impossible. The answer to the problem was found in the cafeteria which will be described later. Bed patients (figured at 40 per cent of the total patients), were cooked for in the main and in the diet kitchen under the supervision of the dietitian. Food was then placed in the food-carts and trundled to the several ward diet kitchens whence it was served under the direction of the ward nurse.

To show the latest and most complete kitchen and mess design, typical of the Knox type hospital and merely too large for the Bragg type, preparation building, kitchen, and mess halls (O-12), (I-39), and (I-43), respectively, are illustrated. These buildings are of metal lath and plaster on wood frames lined with plaster board with the joints plaster-filled. Light and ventilation are provided to a maximum. The traffic of mess attendants and food-carts is kept away from the cooking-area, and the three distinct elements of vegetable and meat preparation, cooking, and messing are separate from one another, resulting, under proper supervision, in an immaculate kitchen and mess.

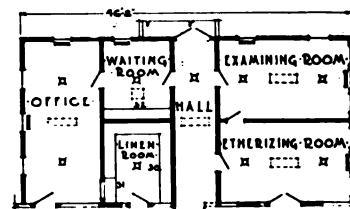
In each of the two mess-hall wings are two cafeteria units, each capable of serving 1,000 men per hour. As far as is practicable they may

be used in cafeteria, the more economical service, but for that class of patient who, for example, hobbles his way to mess on crutches, all or a part of any unit may be set aside and the meal served by attendants to the men at table.

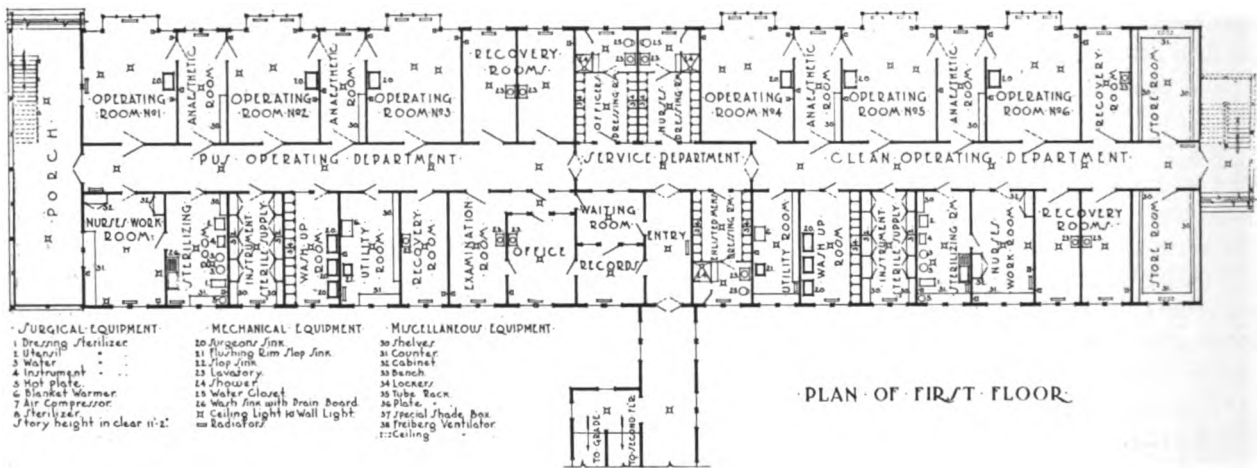
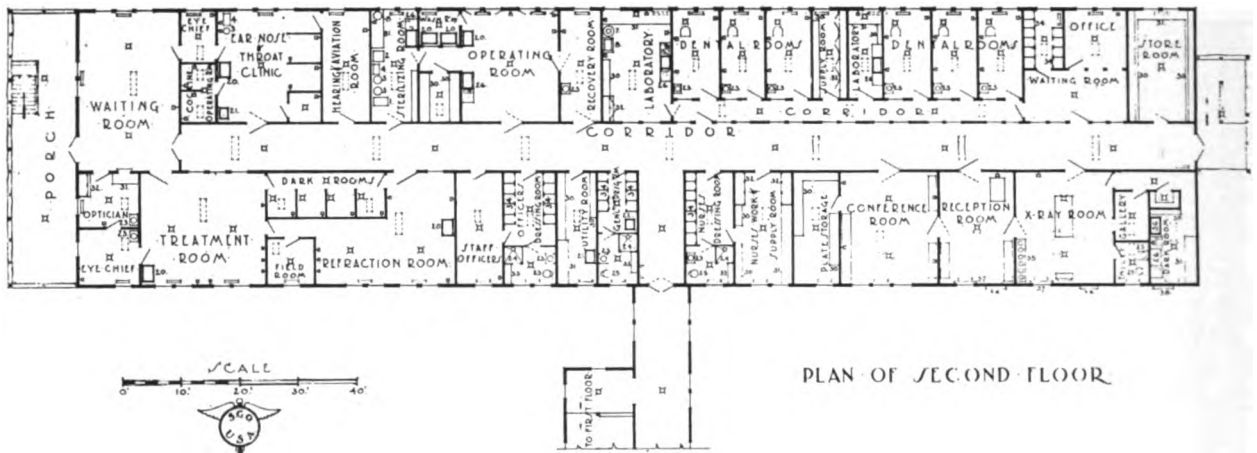
In operation and detailed arrangement of the cafeteria there was chance for considerable variation, according to the different needs of the hospital and the ideas of the mess officer. Very broadly speaking, however, the following was true. At the head of the counter the patient picked up his tray and his knife, fork, and spoon. Then he came to the various foods of his meal, arranged as nearly as possible in the order in which he would choose to eat them, i. e., starting with bread, butter, and soup and ending with dessert. The chief rules that at times worked at cross purposes with this sequence were, first, that the hot foods, with the exception of coffee, had to be served from the steam table, and, second, that the dishes, such as coffee, likely to spill and slop, should come toward the end of the counter where their journey would be as short as possible. With his tray well stocked, the patient walked to a seat in the mess hall to eat. If he wanted a drink of water he could get one at a sanitary drinking-fountain, two of which were customarily pro-



© · SURGICAL · PAVILION ·



· ADDITION · TO · G ·
LOCATED · AT · A ·



Ⓞ SURGICAL BUILDING FOR 2000 BED HOSPITAL

vided to each cafeteria unit at uncongested points along the aisles.

In the layout of a cafeteria mess hall three closely related factors had to be considered: the rate of serving, the length of time a patient could be persuaded to devote to eating his meal, and the number of seats. It was found that a rate of serving of twenty patients per minute was entirely practicable; that a man would seldom stay more than ten, never more than fifteen minutes at mess, and, as a computation from these two, that from 300 to 325 seats were sufficient to keep a single unit in smooth, continuous operation.

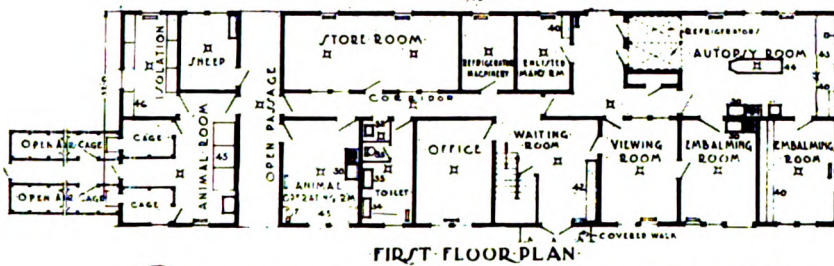
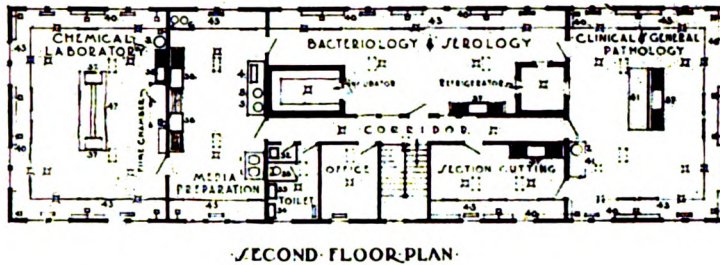
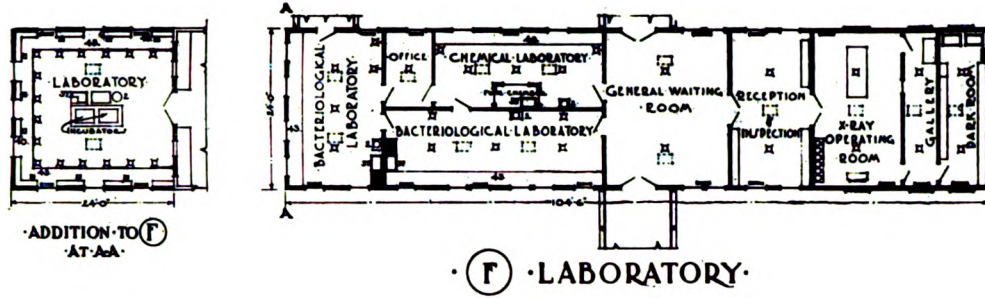
His meal over, tray and dishes in hand, the patient was expected to file by the dish-washing room window to return the utensils. At the window there was frequently a box into which he tossed his knife, fork, and spoon. Then he passed the tray and its contents into the wash-

ing-room, where they were washed and returned to the counter to be used again.

To maintain the rate intended, each specific process must be able to keep up to that speed, for, like the proverbial fortress, the system is no stronger than its weakest point. While the dish-washing room may seem quite remote in operation from the cafeteria counter, it is, nevertheless, rigidly a part of the system. If the dishes cannot be taken in, washed, and disposed of as fast as they are brought to the window,—and this will be at the rate of serving,—the whole system will have to be slowed down or in continuous operation it will jam.

The final classification of the housing elements into which this discussion is divided is called the Operation of Hospital. All administration, plant operation, supply service, and buildings for the care of personnel are here included. A list of them would contain under administra-

ARMY HOSPITALS IN THE UNITED STATES



(F 21) · LABORATORY FOR 2000 · BED · HOSPITAL ·



LABORATORY EQUIPMENT

- 1 Autoclave
- 2 Water Centrifuge
- 3 Electric
- 4 Gas Sterilizer
- 5 Sigmoid
- 6 Still
- 7 Hot plate

MECHANICAL EQUIPMENT

- 30 Surgeons Sink
- 31 Flushing Rim Slop Sink
- 32 Slop Sink
- 33 Lavatory
- 34 Urinal
- 35 Water Closet
- 36 Wash Sink with Drainboard
- 37 Laboratory Sink
- 38 Class Washing Sink

MISCELLANEOUS EQUIPMENT

- 40 Shelving
 - 41 Table
 - 42 Bench
 - 43 Work Bench
 - 44 Autopsy Table
 - 45 Food Bin
 - 46 Cages
 - 47 Laboratory Table
 - 48 Lying Ventilator
 - 49 Ceiling Light
 - 50 Wall Light
 - 51 Radiator
- Ceiling Height in the clear 11'-6"

tion, the receiving ward as well as the several offices necessary to the running of the hospital; under plant operation, such a variety of buildings as the power-house, the electric service station, and the filter-beds; under supply service, the storerooms for quartermaster, commissary, and medical supply; and under care of personnel, the various sleeping, eating, and recreational accommodations for medical officers, nurses, and the detachment.

Most of the buildings in the above list are single buildings, isolated from the hospital proper and thus hardly reflecting the changes that brought about the various types which have been pointed out in connection especially with the wards. There was, however, some change in the administration building, con-

siderable change in the receiving building, while in the barracks and quarters, three flexible unit systems were worked out for caring for the three different personnels.

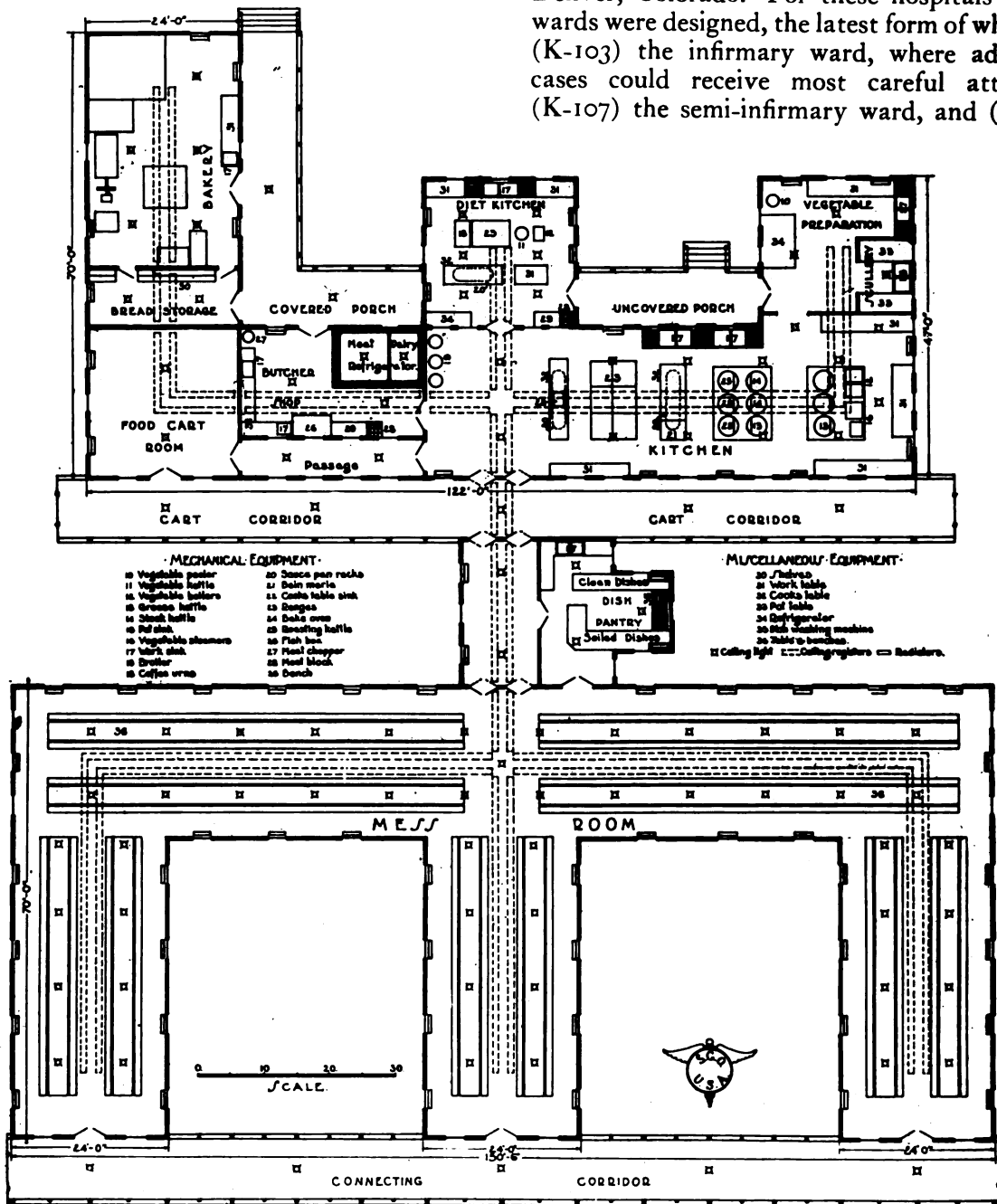
There were two kinds of buildings that we may call special because they were not a part of every army hospital, being constructed at certain places according to definite policy. These are reconstruction buildings,—curative shops, schools, and physiotherapy buildings; and tuberculosis wards, infirmary, semi-infirmary, and open-air.

Schools and curative shops were built in groups, usually one school in a line with two or three shops. The later designs, because of the fire-risk in the nature of their uses, were of hollow tile, plastered on the inside and exposed

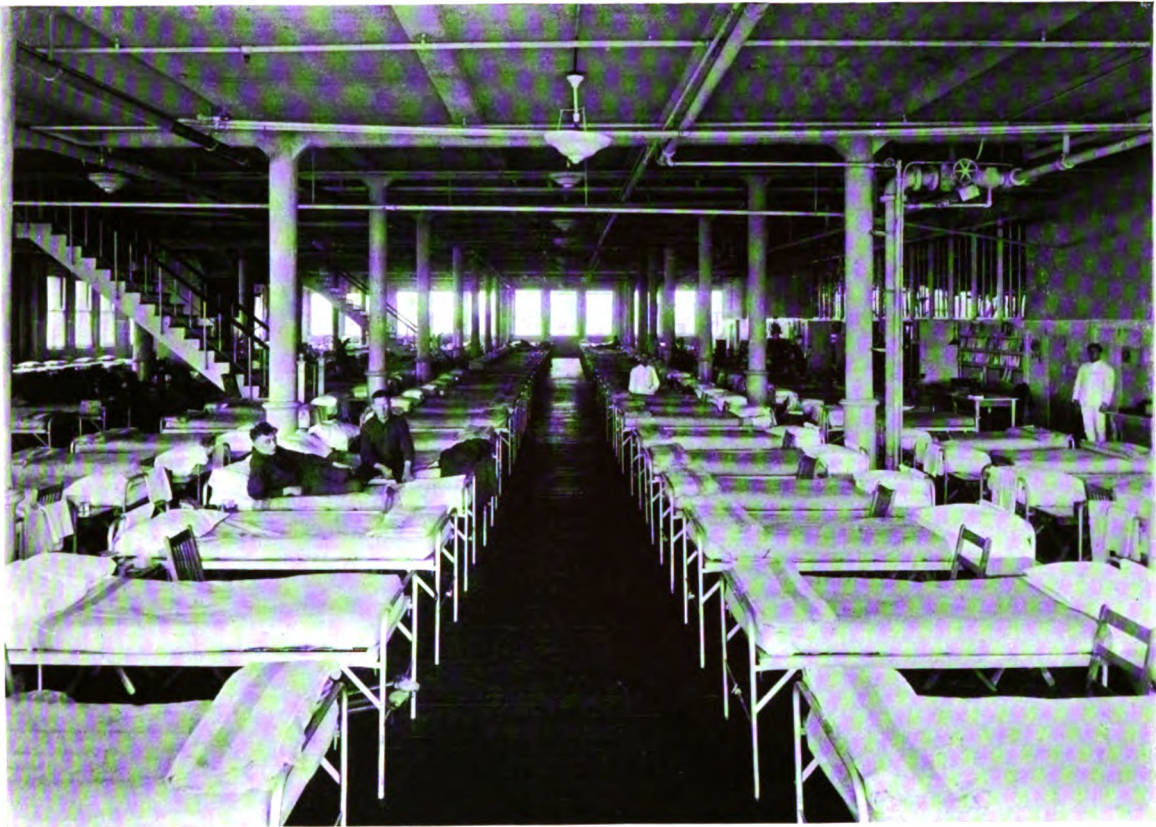
on the outside; the windows were closely spaced and an extra sash in height; interior partitioning was left to be located on the job to accord with the particular apparatus that should be furnished in each instance.

The program of the tuberculosis specialists called for special tuberculosis hospitals, located

in carefully selected climates, and reserved exclusively for that kind of patient. Nine such hospitals were established, at Ft. Bayard, New Mexico; Otisville, New York; New Haven, Connecticut; Markleton, Pennsylvania; Spartanburg, South Carolina; Waynesville, North Carolina; Whipple Barracks, Arizona; and Denver, Colorado. For these hospitals special wards were designed, the latest form of which are (K-103) the infirmary ward, where advanced cases could receive most careful attention, (K-107) the semi-infirmary ward, and (K-108)



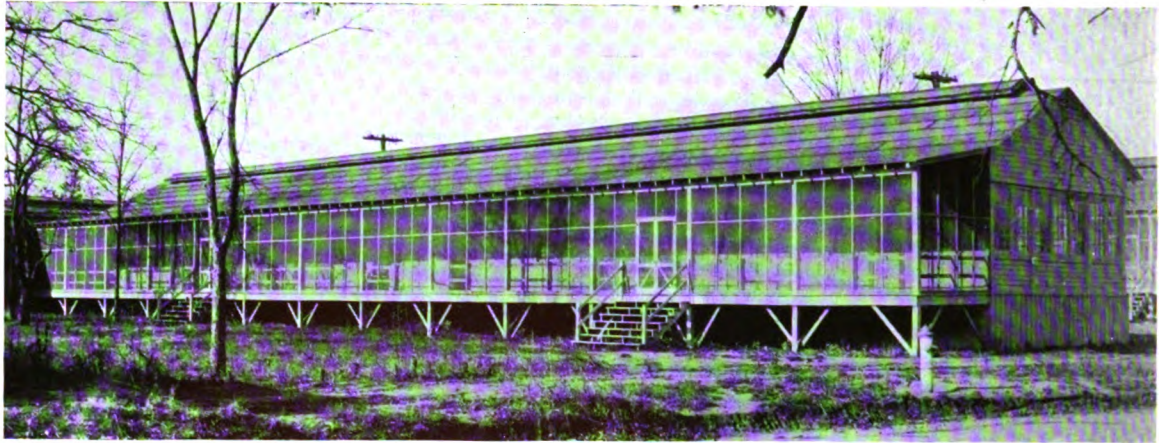
· MESS & KITCHEN · ① ·



LARGE WARD (167 BEDS) DEBARKATION HOSPITAL No. 3



MESS HALL, DEBARKATION HOSPITAL No. 3



GENERAL WARD PAVILION K-1, EARLY CAMPS

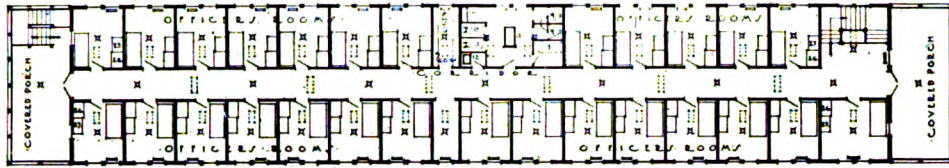


GENERAL WARD PAVILION K-58

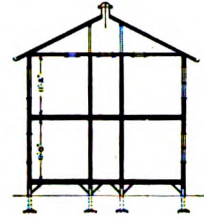


TUBERCULOSIS OPEN-AIR WARD K-108

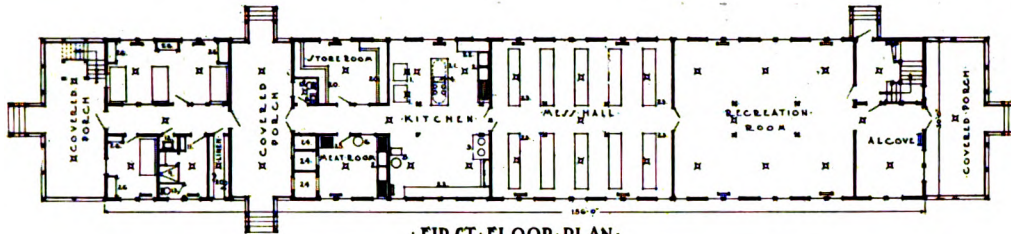
ARMY HOSPITALS IN THE UNITED STATES



SECOND-FLOOR PLAN



SECTION



FIRST-FLOOR PLAN

MECHANICAL EQUIPMENT

- 1 Range
- 1 Wash Sink
- 2 Coffee Jars
- 1 Ice Cream Freezer
- 1 Vegetable Peeler
- 1 Table
- 1 Lavatory
- 1 Shower
- 1 Trough Urinal
- 1 Lavatory
- 1 Step Jet
- 1 Water Closet

MISCELLANEOUS EQUIPMENT

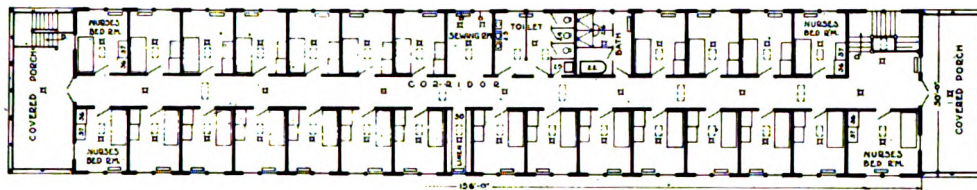
- 100 Shelves
- 11 Card Table
- 11 Work
- 11 Water
- 11 Refrigerator
- 11 Bed Pillow
- 11 Wardrobe
- 11 Staircase
- 11 Ceiling Light
- 111 Ventilator
- 11 Radiator



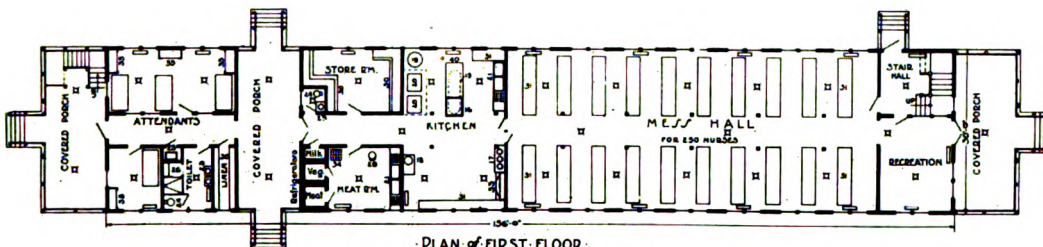
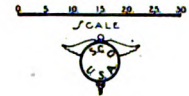
OFFICERS QUARTERS (D¹¹)

WITH MESS & KITCHEN

(D¹¹) OFFICERS QUARTERS SIMILAR TO (D¹¹) WITH QUARTERS ON BOTH FLOORS.

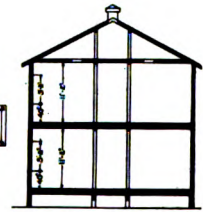


PLAN of SECOND FLOOR



PLAN of FIRST FLOOR

NURSES QUARTERS (E²²)



CROSS SECTION E2042

the open-air ward for slight cases that usually need little more than rest, good food, and an out-of-door life.

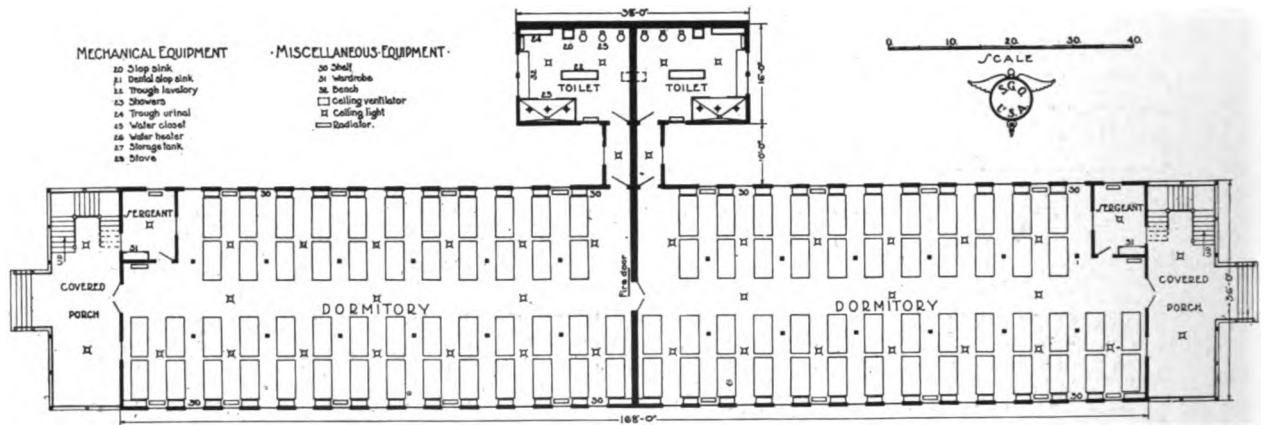
III

Hospitals in Converted Army Posts and in Leased Buildings

In the third large classification the problem was largely one of alteration, with, in some instances, at converted posts, the addition of a few new buildings of the current design.

By the spring of 1918, all available army posts

had been transferred and converted to the uses of the Surgeon General, and as the program of hospitalization grew by leaps and bounds, building material grew scarcer and scarcer, and the railroads, especially in the East, seriously congested, it became evident that a large, probably the major share of the program, would have to be carried out in converted leased buildings. It meant designing at the job, and the office was at once organized to meet the situation by assigning certain men to this pillar-to-post duty, following up a special com-



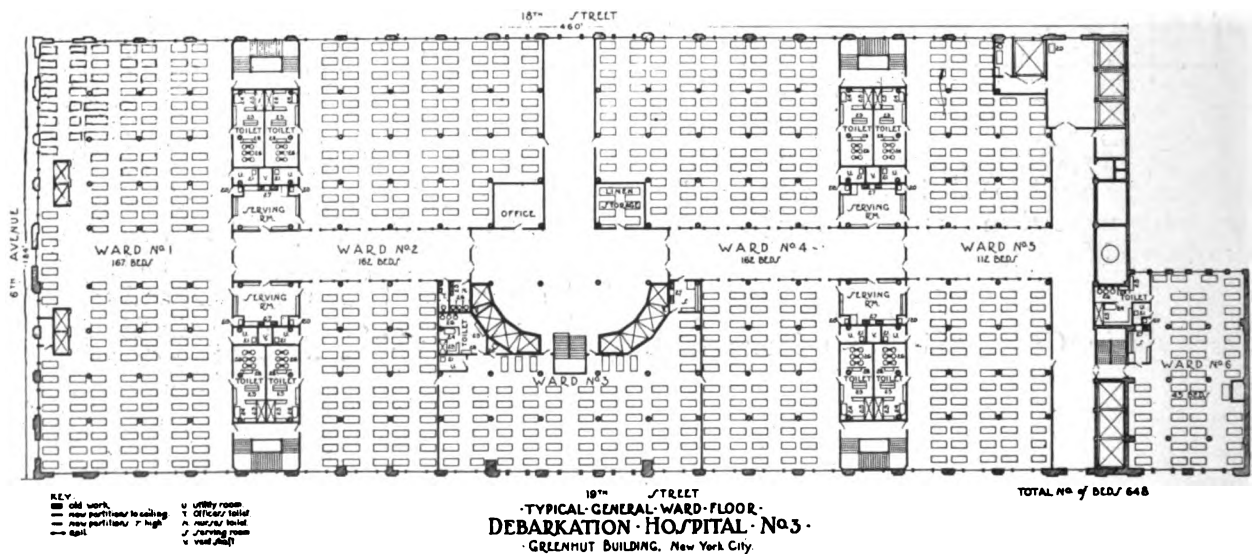
·MEDICAL DEPARTMENT DETACHMENT BARRACK · N^o 12 ·
 ·FIRST STORY · SECOND STORY · SIMILAR ·

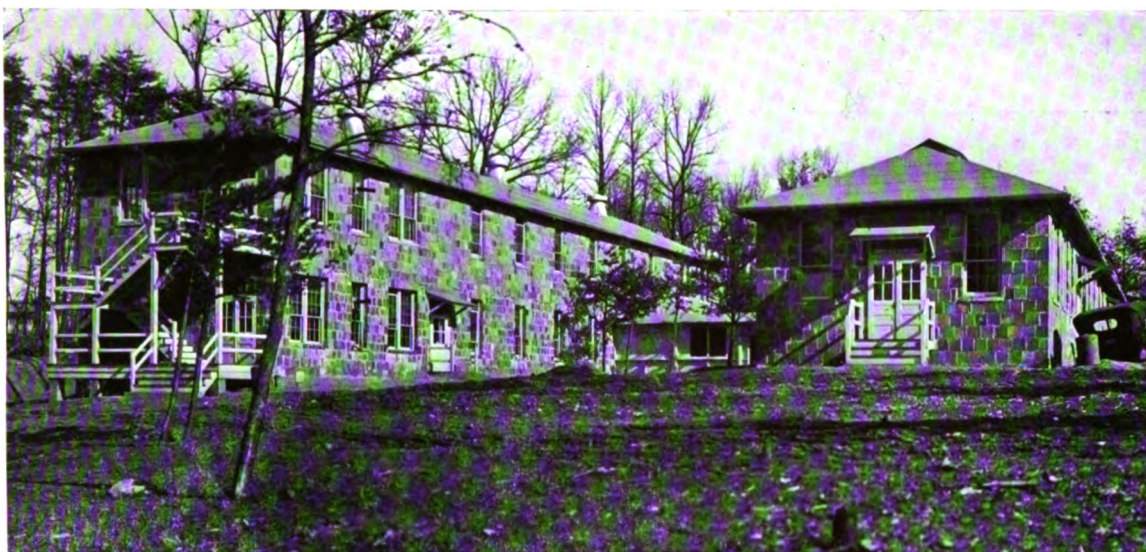
mission which was sent through the country scouting for institutions, factories, and loft buildings that could best be modeled into hospitals without seriously disturbing the life of the community.

The development that had been going on among the plans for hospitals of new construction continued in those hospitals established in altered buildings, especially in regard to the detailed arrangement and equipment of the various rooms. As an example, and probably the best known of these leased buildings, we will consider the old Greenhut Store at Sixth Avenue and 18th Street in New York City, which was converted into a clearing hospital, with a capacity of 3,500 beds, for patients

brought into the port of New York from overseas. There were six floors, a basement, and a roof-garden, tied together by twenty-eight elevators, remodeled and equipped to provide for every hospital requirement from the steam disinfector in the basement, to the runways for rabbits, guinea pigs, and white mice on the roof. The outstanding features of the hospital were probably the receiving section, the large wards, and the system for mess.

The receiving section of this hospital served two purposes: It afforded an opportunity to examine the arrivals for contagion, vermin, and, in a general way, for any need for immediate medical and surgical attention. And it provided for recording and bathing the patients before



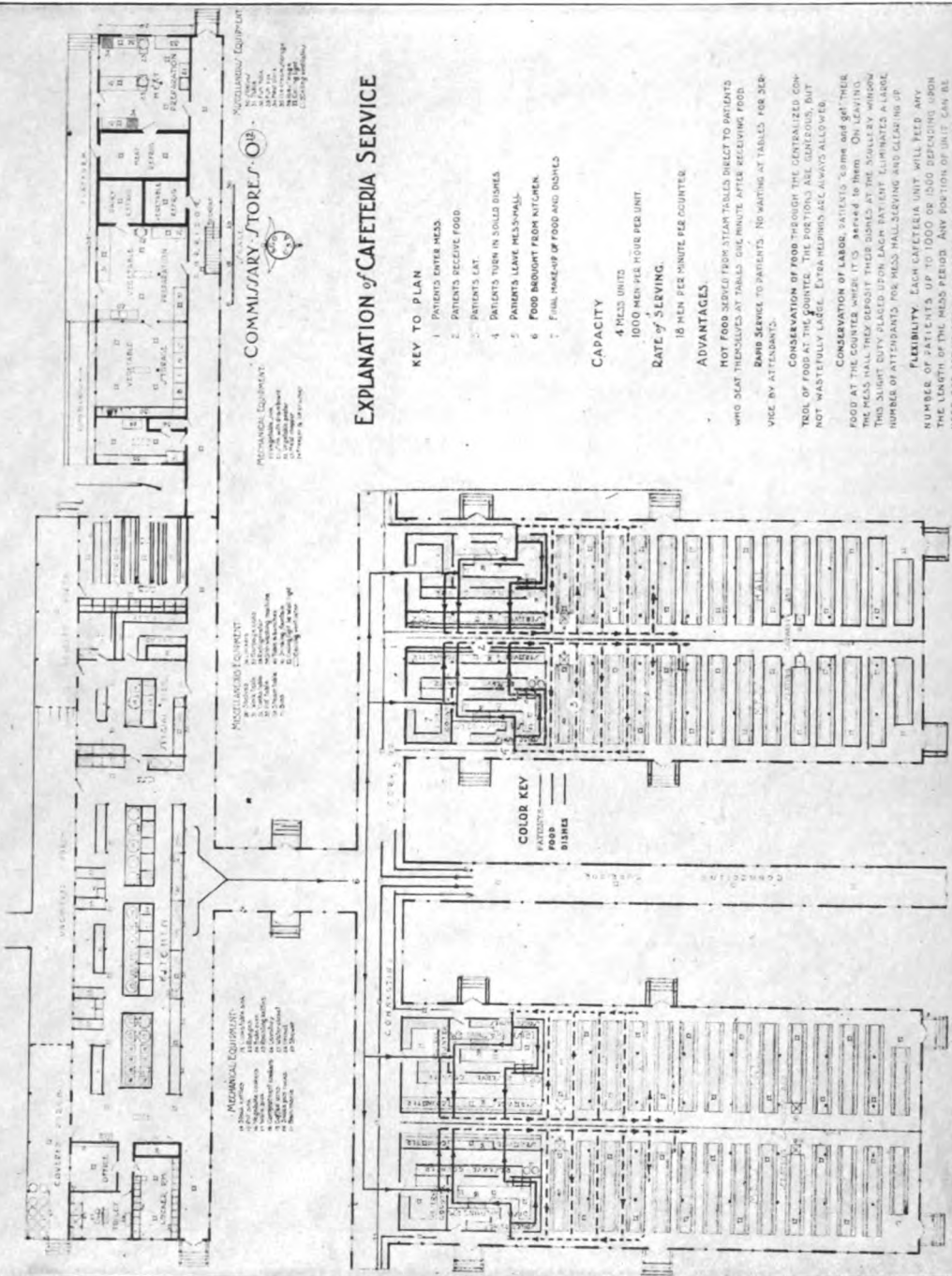


TYPICAL SCHOOL BUILDING AND CURATIVE SHOP



INTERIOR OF GENERAL WARD PAVILION K-1

G



EXPLANATION OF CAFETERIA SERVICE

KEY TO PLAN

- 1 PATIENTS ENTER MESS
- 2 PATIENTS RECEIVE FOOD
- 3 PATIENTS EAT
- 4 PATIENTS TURN IN SOLID DISHES
- 5 PATIENTS LEAVE HELD-DISH
- 6 FOOD BROUGHT FROM KITCHEN
- 7 FINAL MAKE-UP OF FOOD AND DISHES

CAPACITY

4 MESS UNITS
1000 MEN PER HOUR PER UNIT

RATE OF SERVING

18 MEN PER MINUTE PER COUNTER

ADVANTAGES.

HOT FOOD SERVED FROM STAM TABLES DIRECT TO PATIENTS WHO SEAT THEMSELVES AT TABLES ONE MINUTE AFTER RECEIVING FOOD. BAND SERVICE TO PATIENTS. NO WAITING AT TABLES FOR SERVICE BY ATTENDANTS.

CONSERVATION OF FOOD THROUGH THE CENTRALIZED CONTROL OF FOOD AT THE KITCHEN. THE PORTIONS ARE GENEROUS, BUT NOT WASTEFULLY SO. EXTRA PORTIONS ARE ALWAYS ALLOWED.

CONSERVATION OF LABOR. PATIENTS COME AND GET THEIR FOOD AT THE COUNTER WHERE IT IS SERVED TO THEM. ON LEAVING, THEY MUST DEPOSIT THEIR DISHES AT THE SOLID-DISH WINDOW. THIS ALIGHTS THE PATIENTS AND ELIMINATES A LARGE NUMBER OF ATTENDANTS FOR MESS MAINTENANCE AND CLEANING UP.

FLEXIBILITY. EACH CAFETERIA UNIT WILL FEED ANY NUMBER OF PATIENTS UP TO 1000 OR 1500 DEPENDING UPON THE CROSS PERIOD. ANY PORTION OF UNIT CAN BE USED FOR SET-UP SERVICE IF DESIRABLE.

MESS & KITCHEN (19)

wholesale idea could be carried out the better. Due thought having been given to all these considerations, the large ward was decided upon and the building laid out accordingly. No bridges were burned behind, however, and if 160 patients in one ward should prove to be too many, the plans were so designed that intermediate partitioning could be put in at any time without interfering with the operation. It is a matter of record that the wards were not too large, and that for the particular problem for which they were intended, they fitted into the scheme of things admirably.

The Greenhut mess and kitchen layout was designed as follows: Bulk stores were kept in the dark unusable spaces of the basement. Immediate supply storerooms for meat, vegetables, bread, and groceries were located on the mezzanine of the first floor, reached directly by freight elevators from the service court. Vegetables and meats were prepared on this mezzanine and taken in bulk by elevator, dumb-waiter, and stairway to the main cooking-room on the second floor just above. This room was excellently lighted and ventilated. It was in direct connection with the main mess hall of some 2,000 seats, comprising two cafeteria units, each capable of feeding over 1,000 men per hour, set-up sections for tuberculosis patients and cases such as amputations, for whom a cafeteria would not be practicable, and in one corner a nurses' cafeteria. On the opposite side of the kitchen, and actually in an adjoining building, the medical department detachment, some 1,600 men, were fed at still another cafeteria operated in the same system. It will be noticed that all the mess halls of the hospital were concentrated on the one floor. It was thought that a considerable economy in operation and administration would result in having everything under so centralized a control and so near the kitchen. That it was possible to do this was chiefly due to the fact that there were as many as thirty-three elevators in the two stores, Greenhut and Cluett, which comprised Debarkation Hospital No. 3.

Ward meal service was maintained by food-carts stocked in the kitchen, transported by elevator to the several floors, and there wheeled directly to the bedside of the patient and

served to him under the direction of the ward nurse.

In conclusion attention may well be called to the peculiar nature of the problem of hospital design. Up to a certain point it is one of fairly definite right and wrong, but beyond that point there is chance for a wide difference among the best of opinion. The cream of the medical profession of the country was listed among the officers of the Medical Department, and with the heads of the various departments of surgery, psychology, tuberculosis, laboratories, X-ray, administration, and so on, the designers, architects commissioned in the Surgeon General's office, were in constant communication for settling questions of medical technique and getting approval of the plans by those having jurisdiction. And there was another liaison important in the making of the best possible hospitals. This was with the Construction Division, responsible for the actual execution of the work. They possessed accurate knowledge of labor and materials conditions, and meeting the requirements and limitations that they, from their point of view, saw necessary to impose, was a definite part of the routine of the office.

At the outset the emphasis perhaps lay most strongly on having hospital facilities at the thirty-two cantonments by the time of the arrival of troops for training. This was done. As the many organizations which had been drawn together under such pressure in the early days of the war settled down into smoother and smoother running, and the liaison between them became more effectively established, and as the original cantonment hospitals were critically observed in operation, it was possible to institute improvements, and the plans were constantly under change. The result was the development of the block plans, individual buildings, and detailed arrangements that have been pointed out in this article. As the writer looks back over the construction period, he finds it interesting to note how the broad policies and general theories of design, both in large and minute application, were directed by idealism, as one would take an observation at sea, but how the day by day, hour by hour steering could be nothing but a battle among the facts as they existed to hinder or to help—realism of the most practical kind.

Post-War Committee—Some Opinions

WE publish herewith some opinions from Paul Waterhouse, F. S. A., an eminent English architect;* Edmond J. Hill, president of the Institute of Builders, England; the San Francisco Society of Architects, Henry Lord Gay, a member of the Institute, and Mr. W. A. Starrett, whose connection with war construction service at Washington during the war is well known to readers of the Journal. His comment on the services rendered by architects during the war are straight to the point, while his analysis of the various questions with which he deals is at no time lacking in either courage or conviction.

Other architectural organizations now cooperating with the Post-War Committee are the Royal Institute of Architects, Canada; the Society of Architects, London; the Central Society of Architects, Paris; the New Zealand Society of Architects, and the Swiss Society of Engineers and Architects. Others are preparing to take action upon the reconvening of their members after the interruption of war.

Ethics

A code of ethics, if required, should be brief. It will not produce good architecture, correct bad manners, or make an honest man out of one who is inclined to be otherwise. His membership, if prejudicial to the Institute, should be cancelled.—SAN FRANCISCO SOCIETY OF ARCHITECTS.

Standardization

How shall we help to standardize details of building products in common use? Why do it, when it will tend to restrict progress through discouraging continuous thought for invention?—SAN FRANCISCO SOCIETY OF ARCHITECTS.

Entering Practice

The new practitioner should properly begin with small things and work up to the field of greater responsibility, thereby qualifying through process of gradual development. High standard in quality of design and scientific results are the chief requisites.—SAN FRANCISCO SOCIETY OF ARCHITECTS.

The Architect and Government

No matter how popular as an architectural citizen one may become, keep out of politics; don't try for or have thrust on you the office of alderman or supervisor, or any political office; in the end you will make a poor one and probably spoil a good architect.

Accept appointment on public committees wherein your

*From the Journal of the Society of Architects (London).

constructive knowledge, or scientific experience, or artistic abilities fit you to serve, with value to your community and credit to yourself.

Consider, first, that ably to fulfil all the functions and varied demands allotted to the active performance of a skilful and talented architect, there is no political office that can give scope to his abilities nor equal his value in service to the public as can an architect.

There are no "governmental or civic organizations dealing with matters lying well within the domain of architecture" that are not well within the control of political preferment and will remain so, in the writer's belief, until such influences are directed by public dictation, and it is up to the architectural profession to see how far its propaganda can effect a change of political bias and potency.—HENRY LORD GAY.

Architects in the War

One ghost that ought to be laid at the very outset is the one to the effect that the architectural profession had been found wanting in the stress of the war emergency. Nothing could be further from the truth. Not only was it not found wanting, but it is probably fairer to say that it contributed more of intensively trained individuals—trained and fully equipped with a specific, immediately applicable knowledge—than any other of the professions, excepting only the medical profession. Without attempting to prove the point by statistics, it can be pointed out that nearly the whole constructive effort of the war demanded illustration by means of drawings, and while the mechanical and other technical men were pressed in goodly numbers, yet everywhere throughout the government architects and architectural draughtsmen were to be found, and their natural resourcefulness, born of the diversity of their training, was everywhere in demand, and, on an exceedingly large scale, put to use.

That the great architectural firms of the country did not take a more active part, as firms, is a matter that history is sure to record as a shortcoming of the Government and not of the profession, for I still maintain that had the Government availed itself of the organized teamwork ability of the architectural concerns of the country, millions of dollars and, no doubt in many cases, weeks of priceless time would have been saved.—W. A. STARRETT.

Education

It is advisable to license architects, as a higher standard is assured thereby. The law should be designed to improve the status of architecture and not the status of the architect. It has seemingly been of benefit in the state of California. Good architecture can come only from those who can create good designs. State licensing does not create good designs. State licensing does not insure this most important requisite. This should be the function of the Institute.

Too much time is devoted by architectural schools in an effort to teach students to develop designs for colossal

problems, such as would tax the mature ability of the greatest practitioners. Designing cannot be taught. It is a natural development, which grows out of one's accumulated knowledge, if the individual is naturally constituted to become a designer, and only in that event. It is a creative quality which few men possess. Our students begin at the top of the ladder in architectural schools. Architectural students should be trained, first, in all of the fundamentally scientific elements of architecture, thereby to become proficient, at least in that which constitutes the science of the profession. The schools cannot hope to create designers. They will develop themselves when they have learned the rudiments of architecture. All good architecture, is invention. All men cannot by nature become inventors. All men can become scientifically useful in the architectural profession. Few can become creators of good designs. Men lacking in this ability should not be encouraged in their efforts to design, out of consideration for the architecture of our country.—SAN FRANCISCO SOCIETY OF ARCHITECTS.

The Institute

The Institute at present serves no class. It tries to serve the practitioner. It should serve the public through counsel in all matters architectural. Poor architecture is the result of poor design, as good architecture is the result of good design. Both are created by the architect engaged, and without the client's opportunity for counsel with the Institute. The Institute should be accredited with the responsibility for directly influencing American architecture. The present system merely encourages selfishness on the part of the practitioner, without being at all concerned about the quality of architecture produced.

Qualified members of the Institute could render the greatest service to the public in the name of the Institute if properly organized. The Institute should invest qualified members in every community with advisory power relative to community architectural problems, both public and private.

The Institute will always find some pretenders in its membership.

Membership in the Institute should be independent of any other organization, whether chapter or otherwise. It should be based on the standard of qualification only.

One of the most important duties which the Institute has before it is that of creating intimate relationship with the public, whereby the Institute will come into direct touch with all organizations which are working for community progress. They are all more or less interested in the architectural field and should, therefore, receive guidance from a national architectural organization as previously indicated.—SAN FRANCISCO SOCIETY OF ARCHITECTS.

Architect and Builder

The future will produce a closer union between the architect and builder, and the joint conferences will create a better understanding. Architects will be more ready to consult the builder on questions which his practical knowledge and experience have taught him how to handle. The usefulness of this may not at once be apparent, but the experiences of a builder are of a very varied character,

particularly in a city like London, bringing problems that have to be overcome, the explanations of which should be available to the architect.

The conferences between the Institute of Builders and the R. I. B. A. will bring the architect more into touch with the workmen's organizations. The architect will recognize that if mutual interests are to be safeguarded, he will not employ a builder who is not a member of his trade organization. In my opinion, if mutual interests are to be upheld, all employers and operatives will have to belong to their respective trade organizations, and, in the opinion of many, the time is not far distant when the architect, builder, and workman will confer together on general questions concerning the craft.

I would suggest, in order to obtain a better understanding of the difficulties to be faced and solved by the builder and his workmen, that the training of the young architect should more often include a period of practical training in the workshops. I am aware that there are difficulties and that time would be taken from the Training Centre, but even if only a short course could be taken in a builder's office during the recess, some useful experience would, I think, be gained.

The same remark applies to the builders, many of whom think that it is only the builder who has his troubles. The would-be master builder should include in his training some period in an architect's office, which, in my opinion, is as important as a period at the bench. EDMOND J. HILL, President of the Institute of Builders, England.

Mutual Relations of the Architect, Builder, and Workman

Turning the search-light of our new life upon this old, old trio, we say, "Why this three-legged business?" "What is the third man doing?" "There is a smell of 'middleman' about this affair. Why isn't it a simple deal between buyer and seller?" Which is the useless member of the group?

Obviously not the building owner, for without demand there can be no supply. So it lies between the architect and the builder, and it is quite reasonable in these days of heart-searching scrutiny to ask why should not one or other of these drop out. One answer is that as a matter of fact the experiment has been tried—both ways. Architects have before now acted as contractors, contractors as we know have acted as, or at least without, architects. Strange as it may seem it is possible to argue in favour of the elimination of the third man on the highest possible grounds. You may urge that some of the failure of modern building craft is due to the dissociation of the functions of the designer and of the constructor, and that therefore the architect-contractor, or the contractor-architect, is the very superman we want to set everything right. I have mentioned this point of view because I want to point out first that it is based on a ridiculous fallacy, and further that if it were not there would still remain two very strong reasons against succumbing to it.

The fallacy is this. If an architect contracts for a building it certainly means that besides designing it he conducts the routine of engaging labour, of buying materials, of calling in sub-contractors, of paying wages and of looking after his own profits. But it does not follow that he ever

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acts as craftsman or even foreman. Similarly the contractor who plays the architect is very unlikely to be the actual draughtsman of his building. So that the union in one man of the designer and craftsman never comes off after all.

But if it did, what then? It would be found that the limits of time and of human capacity, (after all there are such limits), rendered the performance ridiculous. There would be an apparent gain to the owner of five per cent of the cost, counterbalanced in reality by a tremendous delay, and by a great loss of the energy which ought to have been put into the separate functions now rolled into one. To speak the truth fearlessly the qualities which make a good architect do not always make an able contractor, and I have certainly known, though you may not believe me, first-rate contractors who were not equal to architecture. If for no other reason architects and contractors must both be allowed to continue their existence because even if architecture may seem mere by-play to a contractor most architects are aware that their own art is enough to occupy life, and even if some of us have enough energy and enough of our client's time to spare for personal excursions into stone carving, bricklaying, plaster modelling, and an occasional wiped joint—thereby showing that we are as crafty as we are artful—it remains a fact that we cannot also find time to do the builders' business as well.

The remaining argument is just this. The function of the architect as intermediary between client and builder is a very real function, a function for which there is a need, and a function worth the shilling in the pound which is usually paid for it. I will not here work out this point. Most practical people understand it. Perhaps it is enough to remind the building world of this one consideration. The employment of a builder for any large building is a very important and very serious matter involving the risk of the waste or misapplication of an appreciable sum of money. The relationship between owner and builder during such a transaction is one in which countless misunderstandings can arise. Is it not well, therefore, that this relationship should be eased to the advantage both of owner and builder by the intervention and assistance of a skilled go-between intimate with the needs of one party and with the capacities of the other?

In conclusion you will understand that having brought out and examined these two pieces of our building craft machinery I decide for my own part to clean them and oil them and put them back in use.—PAUL WATERHOUSE, F. S. A.

Architect, Builder, and Owner

My own point of view is a composite,—that of a builder and of an architect. I have taken part in the industry from both points of view, which leads me to the seemingly contradictory statement that both points of view are about the same. As suggested in the syllabi, the architect and the builder are much one and the same in their relation toward the owner (at least they ought to be) and it is the failure fully to recognize this fact that has contributed to much misunderstanding. This, perhaps, applies more particularly to the building of large metropolitan structures. There economy of time ranks in importance with economy of money. However, analysis reveals the proposition to be quite as sound throughout the whole gamut of construc-

tion work with which we are dealing in this discussion, and if we admit this almost inseparable relation, it may be well for us to turn and squarely face this partner to whom we are thus attached. He turns out to be very human and very diverse. Disregarding the great mass of him, who is a plodder, we find at the top (and the top is not necessarily marked by bigness) earnest men who, with skill and diligence, are trying to solve scientifically the complications that the business presents. Their first question is for definite facts. "Just what do you want?" runs through the whole organizational structure of a high-grade contracting firm.

If one were to undertake to define "modern construction organization" in one word, one could not do better than to say "forethought." Immediately the mind flies to the function of the architect, and any one of us can turn the question upon himself. Do all plans show the necessary forethought? Are major questions not often left to solution at the site, or at least to a period long after the contract is signed? If they are so left, who is responsible?

First of all, it is not the builder, obviously. How about the owner? Here we commence to get the clue. Where is the architect who cannot recite dozens of heart-rending experiences where the owner, by procrastination and vacillation, has thrown confusion and delay into the work? Who cannot recall decisions delayed from Monday till Friday, and from Friday till Monday, while precious days of fine building weather slipped by? But these twin vices are not accountable for everything. How about the owner's changing his mind, or failing to understand? The whole first complexity reveals itself in this relation. Owners who have never so much as looked at drawings essay to learn a complicated life-occupation in a few weeks over your draughting-boards—deciding important questions offhand, and dawdling for weeks over inconsequential details that hold up drawings and raise Cain generally. All of this is his privilege, but the point is that he should not be permitted to place the architect in the position of arranging a contract so that the owner does not stand the expense involved. Expense both to builder and architect for the wastefulness of the proceeding is so obvious that a reckoning is sure to follow. Therefore, there can be no doubt that one of our foundational observations must be that the owner will have to be better posted upon the essentials of his enterprise, and if indecision and lack of understanding are to be brought to the table by him, he must pay the piper.

To educate the owner, we must, of course, first educate ourselves. How many architects avail themselves of the priceless advice and coöperation that a fine building organization offers? How many have the courage to say to the owner, "On these things I am not so well posted as our builder"? The question will, no doubt, evoke a variety of answers, but we ought to ask this of ourselves about three times over, and about three days in succession before we follow our natural inclination to rush in with a reply. My own experience is that as a builder I was not consulted half enough, and that as an architect I did not consult half enough. Here we find the germ of much of the trouble, and one reading the syllabi, I venture to say, can connect this question directly and indirectly with a lot of the perplexity that those interesting documents suggest.

In the first place, the owner ought to carry his own risk. He enters the proposition as requiring something special—a building embodying his particular requirements, his fancies, and sometimes his caprices. The market for the yet-to-be-furnished materials is variable, yet, to a certain degree, dependent upon the caprice of unmade decisions, and on this the owner sets out to get a price which will bind a contractor, and over him, as mentor, he sets an architect. Surely we have here the fertile ground for discord.

If the owner can be made to see that equity and his own interest demand that he carry his risk, a large part of the question will be solved—but not all. The door is opened for the coöperation of the architect and the builder, but it remains for the architect to enter wisely. The responsibilities appropriate to each side are well understood and need no discussion here. *The moment we remove the project to its proper realm and cease to regard the contractor as a vendor of a finished product, the sooner we will start emerging from our difficulty.* The question arises as to the ability and integrity of the contractor. Again there is at least one tenable solution, and that is to select only the contractor of standing and ability. If architects would give as much time to the study of the contractors and contractors' organizations, their methods and personnel, as they give to the study of comparative figures, they would learn much. One is the study of the live, vital organism; the other is the dissection of the dead anatomy of bygone performances. There will be schools to advocate each method of procedure. I believe that the former is the better.—W. A. STARRETT.

Compensation

It is needless to point out the complexity of a modern architectural business, but it might be pertinent to point out that, as we now practise it, we are, in fact, embracing three businesses in an all-inclusive term when we speak of Architecture. First, there is the Design; next, the putting together, the specification writing, etc., all of which might be grouped under the term Construction of Architecture; and third, there is the Business of Architecture, the commercial aspect of the whole thing, both as to the professional relations of the architect with the owner, and the general business conduct of the office. While these three merge imperceptibly into each other and are interrelated, nevertheless we should recognize their separation if we are to examine our problem. One of the confusions of the business arises out of the muddled merging of these entirely separate functions. It is in this nondescript wallow that we find budding young geniuses starting their own offices, essaying to handle every relation of owner and contractor from the top of a draughting-board, and proving conclusively to the owner that the business is profitable at a fraction of 1 per cent. Perhaps it is in the failure of the profession to recognize the separate kinds of talent here involved that we may find the root of the question that the Post-War Committee is called upon to answer.

Ability to design is properly given first place in architectural consideration, but it is also apt to throw the first anomaly into the problem. Men with artistic genius must almost necessarily spend their early lives in uninterrupted study of their art. Many of these emerge and equip

themselves in the other branches of their professional work. These become the leaders of the profession, and around their activities the code of the Institute is drawn. Then come the men of equal talent in design, but of less business ability. A sense of comradeship demands that they shall be equally compensated in any general scheme of compensation. But following them come men of lesser ability, their life-problems complicated by peculiarities of temperament. And so we see the profession, a sort of procession led by able leaders rendering splendid services to their clients, tapering off through all variations of genius, till we reach the lower half of the column composed of the mediocre, with the dubs bringing up in the rear. But the anomaly comes not in the human aspect of the procession, which, in fact, is no different from any other business procession, but in the fact that the leaders have set the standard of compensation for all, and it is this dead weight they are carrying that is causing most of the trouble. This is no criticism of method, for the code of the Institute is recognized universally as a splendid standard, but it is in its practical application that the business world finds it so vulnerable. Why should the first 20 per cent—we can make it any per cent we like and comfortably assign ourselves a position in the procession without the least moral qualm—have to lug along this handicap, and by its own code of ethics keep open a vulnerable point, which, when exposed to the mediocrity of the tail-enders, makes the code seem ridiculous? Does it not arise in part from the failure of the profession to recognize and stimulate the recognition of the three functions it performs?—W. A. STARRETT.

Compensation

The institute's attitude toward the public assumes the placing of all practitioners on the same plane of proficiency through uniform compensation policies. As all practitioners are never equally proficient, why not abandon compensation provisions, and allow each practitioner to establish the value of his own services?

As individual ability and nature of service vary, therefore the rate of compensation should not be uniform, nor should the Institute attempt arbitrarily to provide a minimum rate of compensation. The Institute usurps individual freedom in attempting to prescribe a uniform charge for results, the quality of which it cannot insure to the client. Every practitioner should be obliged to determine the value of his own service.

Many low-grade practitioners have joined the Institute, to insure a higher rate for service than they can otherwise obtain. They impose upon the public, using the prestige gained through Institute membership. The Institute should concern itself with quality of membership, not quantity. The schedule has never barred competition as to price between architects. Every architect should charge only what his services are actually worth. The Institute should not endeavor to suggest the value of any practitioner's service. Such values necessarily vary according to quality and character, and should, therefore, be determined between architect and client.

If the Institute continues to make recommendations concerning compensation, then a proportionate increase should be assigned for preliminary service.

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Preliminary service demands ability to create an appropriate design. Preliminary service necessarily embraces that which is most valuable to the client, and should be charged for accordingly, whether in competition or otherwise. Preliminary service in competition is of equal importance to preliminary service without competition. It represents the same degree of service and importance and should, therefore, not be discriminated against.—SAN FRANCISCO SOCIETY OF ARCHITECTS.

The Competitive Contract System

The house which we have to put in order for the great post-war era into which we are advancing, is the great home of the art and craft of building. That house is full of appliances, and every one of these appliances, from the driving wheels to the meanest cogs, should be considered well before it is cleaned and lubricated and put into fresh use.

There are two features in our machinery of daily work that I venture to pass under review in this allotted quarter of an hour. One is the prevailing system of competitive tendering, and the other is the relationship of the architect to his client and to the client's builder. I want us to ask ourselves quite frankly whether these bits of machinery are good enough to go on with, and to give our answer as frankly.

It seems a fine thing to sweep away the system of competitive tendering. The faults of the system are so obvious. We set contractors to run a race not of excellence but of money. We say to them "come and struggle together for the prize of a job: the prize will be given not to the best builder among you, but to the cheapest builder, or rather to the cheapest estimator." We seem to be implying that neither we as architects, nor employers as owners, care how the work is carried out so long as it is got through at rock bottom price. It might be said that we were by such a system only making trouble for ourselves. For the cheapest man—the winner—is, it may be urged, the least likely of all the competitors to be able to put into his work that extra margin of quality which makes and marks the difference between a good building and a bad one. I think that if we architects were left to ourselves and to our own inclinations we should to a man give our vote for the abolition of competitive tenders. Don't we know the luxury of working through a building enterprise with one of those old friends in the building world whom most of us middle-aged architects are happy to possess? Don't we know the pleasure of realizing that this old friend has been put in without competition on our own nomination, but with the perfect acquiescence of a trustful client who wants the best work out of both architect and builder? Must we not acknowledge that there is a pleasure about such work for client, architect, and builder, which is by no means always found in those undertakings whose birth is presided over by a sordid money struggle? We do, indeed, most gratefully admit that work under conditions such as these has often been our happiest and our best, and that though the contractor may have been paid a trifle above lowest rates the bargain between owner and builder has been a fair one and satisfactory to both parties.

But can we look upon such a system as the normal one; and would it be well for builders and employers if the competitive system were swept away? I believe not. The

builder in the ideal case just described must be paid on a reckoning of some sort; and that reckoning must be made up and checked in one of two ways. It must either be on ordinary bill of quantities priced at the start, as if in competition, and adjusted by a quantity surveyor at completion, or it must be a bill worked out on the prime cost and percentage system. (I do not regard the priced schedule system as a third method, for it is merely a variation of the priced quantities with the difference that the client gets no lump sum figure at the start.)

Now whichever of these schemes is adopted it is quite clear that unless confidence is to be carried to unusual and unreasonable bounds the builder's accounts have got to be checked by either an architect or a surveyor (or both) representing the owner. How is this checking to be done? The opinion of the surveyor as to the reasonableness of this or that price must be based upon some standard; and standards if they are fair can only be set up by some sort of competition. Competition exists in all healthy trades, and as builders cannot compete with one another by placing, like drapers and grocers, ready-made, priced products in a shop window, they must conduct their rivalry by giving competitive prices for certain objects, the identity of which is fixed by a specification and by quantities. I conclude, therefore, that if for no other purpose than the establishing of an average of current costs, competition in price must continue to exist alongside of the continuation of that pleasanter method in which the builder is paid for his work without winning it on price. But there are other reasons also for the retention of the competitive tender, and perhaps the chief of them is that without it new and young firms would find it difficult to gain an entrée into the building market: for the public having no price criterion to go on would perforce be inclined to choose their builders solely or mainly on grounds of well-established and long standing reputation. For many buildings in fact non-competitive payment is excellent, indeed advisable, but the abolition of competitive tenders or of competitive pricing on schedules would lead to random pricing, capricious increases of standard, disputes, and in fine to a state of uncertainty in which neither owner nor builder would be the gainer.

To suggest that the prime cost and percentage system of payment is the solution of all difficulties is misleading. It might be urged that the healthy competition between firms could be simply exercised by allowing them to quote against one another the percentage each is willing to accept on prime cost. But with every intention of honesty on everybody's part there is a difficulty in the very basis of the system. Prime cost! What is prime cost? I insult nobody when I point out that however loyal and honest a builder may be the prime cost and percentage system offers him no inducement to buy cheaply, and certainly encourages the builders' merchants to charge as highly as possible. If I were speaking with unguarded tongue I would suggest further that "prime cost," which sounds so final, is in the realities of commerce, elastic.—PAUL WATERHOUSE, F. S. A.

The Contractor

The architects may well view the contracting industry as a great partner in their enterprise, and it is for them to

see to it that keen judgment is exercised as to who performs well and faithfully, and who is dilatory and undeserving.

Already this responsibility is upon the profession, and the question everyone ought to ask himself is whether he is taking proper steps to appraise the value of a contractor's services. If his opinions are based simply on personal liking of some individual in the contractor's organization, or willingness of the contractor to do little things not specified, or simply the personal satisfaction that comes from liking everybody, he is not only not doing his duty, but he is, in fact, betraying one of his most important responsibilities. Conversely, the dislike of a contractor because he insists on his rights, or because he views the work as too much of a business proposition, brings into the whole relation one of the most damaging arraignments of the architectural profession. This ability to withhold favorable, or indeed even just comment, has developed into the proportions of a scandal against the architectural profession and is responsible for more evil in the relations of these two partners than any other one phase of their work together. Contractors generally have not fully recognized this situation, and they are apt to regard the favor of the architects as something that gets them work. As a matter of fact, very few contracts go to any specific contractor, under present circumstances, through the favor of the architect for that contractor. The canny owner makes his own appraisal of the propositions as they come in, as he properly should. The fact is that it is the negative attitude of the architect that the contractor fears, and we thus discover a certain element of the profession practising a sort of tacit blackmail, through the fear of the contractor that the architect will "knock" him.

My government work in Washington during the war brought this whole situation forcibly to my attention. The first questionnaire sent out under the auspices of the Institute received splendid response because it asked the architects to give the names of well-organized contractors, and the detail of the blank form brought out specific information that was desired. But in the following phases of the work it developed that when the question was put as to the standing of any one contractor, the answers degenerated into perfunctory commendations of everyone in the country who laid claim to having built anything; or, we would receive the most scathing criticism of some concern about which we already held abundant testimony as to its good standing. Tracing down these opinions, favorable or otherwise, we seldom found anything but unsupported personal opinion behind them. Little was known as to the past records of the personnel; little of the structure and functioning of the organization. There seemed to be no ideas as to what constituted good organization, and to what extent such organizational schemes as were adopted were put to effective use by contractors. Generally, the whole opinion rested on the general statements that So-and-so was a "good man," or that he "knew his business," etc. Is it any wonder that the business world calls us unbusiness-like?

The criticism herein suggested may bring the rejoinder that no one individual could be expected to know the

organizational details of a business that requires all the time of a contractor to follow. However, it suggests that we might properly take a closer view of our own business set-up.—W. A. STARRETT.

Organizing the Three Functions of Architecture— Design, Construction, Business

But why not adopt a system or code that recognizes more clearly, and is designed to compensate more equitably, the three functions of architecture separately? Why not employ a great designer for his skill, freeing him from the extraneous and sometimes irksome toil of the construction of architecture and the business of architecture?

On the basis of separation into its three functions, the profession could more clearly present its case. Would there not be some advantage to the man of ability in any of the three branches, if he were deficient in the others, if he frankly stood on his merits in the work in which he specialized? Would not a Stanford White design have commanded the same admiration and the same high compensation if it had not had the great architectural organization behind it? Perhaps it would not. Perhaps the three coordinates of architecture are inseparably linked together; but if so, the profession must stagger along under a handicap not carried by any other business.

After all, the cold fact is that, as a business, architecture is not particularly profitable. Occasional large commissions are frittered away in the expense of preparation for, and drift after, the enterprise.

It is in this light that we can better view our relation with the contracting industry, and the necessity that is upon us to appraise it properly. A strong, scientific construction company could supplement such a separation of functions of architecture to a marked degree. It is not too much to say that it could undertake, in some cases, the functions of the Construction of Architecture and even the Business of Architecture. To some, this statement will come as a shock, but it is, at least, the forecast of a reality, for, as a matter of fact, many of the large construction companies are seriously considering taking over these two latter functions in many cases. The trouble with the situation is that unless the architectural profession recognizes this sign of the times and adjusts itself to this growing tendency, it may find itself entering an era of competition with an industry that already occupies a superior position in the field of pure business.

It is useless to wail about the baneful effects that might arise from such an outcome. It is business and not ethics that we are serving when it comes to large, modern, commercial structures, and efficiency is the keynote. The architectural profession has within itself all of the essentials of efficiency, and, rightly applied, they can be used to improve a situation that, in the present drift of things, is becoming confused. This improvement will come through the better posting of the owner as to his responsibilities, the scientific recognition of the merit of the profession's inevitable partner, and the separation into its essential features of the complicated functions that the architect performs.—W. A. STARRETT.

News Notes

New Zealand Conference Decides That Housing and Town Planning Are National Problems

The New Zealand Town Planning Conference and Exhibition, appears to have been a brilliant success. More than 250 delegates assembled from all parts of the Dominion. The conference was organized by the New Zealand Government, and occupied five busy days of papers, lectures, discussions, and resolutions. The delegates unanimously agreed to recommendations in favour of the creation of a Town Planning and Housing Department, controlled by an expert town planner, and established by a Town Planning and Housing Act, applicable to all parts of the Dominion. The Hon. G. W. Russell, Minister for Internal Affairs, undertook to recommend to Cabinet the adoption of these proposals. Another important resolution adopted by the conference recommended that the Government recognise the housing shortage as a pressing national necessity, and coöperate with local bodies in building houses on garden-city lines; also that the Government set aside £1,000,000 to subsidize operations of councils in building new houses. It was stated that New Zealand required 10,000 new houses, for which the Government would need to find £3,000,000, both as subsidies and advances to local bodies. Resolutions bearing upon the financial aspects of town planning were also carried, which decided that the cost of the town-planning department, including the salary of the expert, should be paid by the Government; that the cost of carrying out local schemes should be borne by the district affected; but that the money required should be provided by the Dominion Government at the lowest possible rate of interest, the local bodies being called upon to pay only interest and sinking fund; and that, in addition, smaller councils in special circumstances should be assisted by a direct grant by the State. It was also decided that under the Town Planning Act it should be made compulsory, when any area exceeding five acres, was subdivided, that 10 per cent thereof should be vested by the owner in the local authority for open spaces and public purpose.

Some Recollections of the Building of the Tennessee Capitol

Mr. A. C. Bruce, of Atlanta, one of the oldest of American architects, and who lived in Nashville during the building of the capitol, has sent us a newspaper clipping in which are recounted some of his recollections. We republish it as of interest:

"It was in the early fifties I began to be interested in the state capitol. I knew Mr. Sam Morgan well: he was chairman of the commission and was deeply interested in every feature of the work.

"After I had been at work for several years with my father, who was a builder, I became interested in the study of architecture. There were no schools in that day like the Massachusetts Institute of Technology, so I had to

look for the old publications on the orders—all that was available. Then Messrs. Warren and Moore, with whom I worked, secured the services of a distinguished English architect, Mr. H. M. Akeroid. Many buildings in Nashville now stand as his masterpieces in architecture. I would see him in his office after work hours and help him in his specification and detail work. After that time, Mr. Strickland, with his great plan on the state capitol, frequently mentioned in the papers, reported progress on the building. When quite a young man I made Mr. Strickland's acquaintance. He was very nice, and began to be interested in me, as I told him I was expecting to be an architect some day, and he told me to come and see him often in his office. I looked over the plans and general details of the work as he would show them to me. I remember particularly the model of the roof to the capitol; it was beautifully done by one of Nashville's expert carpenters. Made to one inch scale, showing every piece of timber required in the roof; showing the length, size, and position. I think it was about six feet long; no iron except the bolts, rods, nuts and washers, so that when it was framed to full size by the carpenters, it fitted to the building and is now in position strong as ever, carrying the roof for fifty years or more. As to the foundation, I do not know anything.

"One of the striking features of the construction was the walls, commencing four feet thick above the foundation. Each stone finished on inside same as the outside and when laid in place the wall was finished, and required no furring or plastering. This construction was carried out through the construction of the building, showing a smooth rubbed face on all inside walls. The ceiling to the basement was formed by groined brick arches to carry the floors above, giving the best construction possible in a building. The first floor consisted of the state offices, as now occupied. The second floor was approached by a grand marble stairway leading to the rotunda on the second floor, where the fine cut stone work formed the base of the dome, some of the stone very large and cut to the various angles required by the rotunda, giving the very best stone work possible.

"One of the unique pieces of work in the erection of the building was the cavity left in the north wall, second story portico, to receive Mr. Strickland's body when he should pass away. As a boy, in running over the building on my visits, I often climbed into the cavity that was left open to receive his body. I was present when Mr. Strickland's body was placed in the cavity and the tablet sealed for all time.

"The magnificent monolithic columns forming the galleries over the committee rooms are beautifully proportioned and finished with elaborate carved capitals. I heard it said at the time, that the state convicts, who did the stone carvings were pardoned by the governor when the building was finished. Some of the stones forming the main cornices of the building were as large as 16 x 20 feet, cut and fitted in their place without the sound of the hammer or chisel.

"The building, taken as a whole, stands as a lasting monument to the skill of the distinguished architect and is the pride of all Tennesseans who visit it daily throughout the years."

Changes at the Cornell School of Architecture

F. Huntington Bosworth, Jr., of New York, has been appointed Dean of the College of Architecture in Cornell University, vice Prof. C. A. Martin, resigned. Mr. Bosworth will have charge of design.

A Park Design Competition

The Municipal Art Society of New York is to conduct a competition to secure designs for the improvement of the small triangular park in Greeley Square, bounded by Broadway, Sixth Avenue, and 35th Street. R. H. Macy & Company are offering, through the Municipal Art Society, first, second, and third prizes for such designs as meet with the approval of the jury.

The architect or draughtsman submitting the winning design will also receive, if it is carried out, compensation for his services in its execution.

The competition is open to all architects and draughtsmen living in or having a place of business in, Greater New York. Six weeks will be allowed for the preparation of the drawings; the program may be obtained up to and including September 29, from the secretary of the Municipal Art Society, 119 East 19th Street, New York City.

The Significant Attitude of New Zealand on Housing and Town Planning

In presenting the new Town Planning Bill to the New Zealand Conference, referred to elsewhere in this issue, the Hon. G. W. Russell, Minister of Internal Affairs, said the following remarkable things:

"The wily land speculator, in selling farms and suburban areas for residential purposes, has taken little or no account of whether his sales and resultant profits fitted in with either the lay-out of the city or the adaptability of the lands he sold to drainage or water-supply. Such questions did not trouble him. His primary object has been to secure the enormous increase in value that has been obtainable through the necessity of workmen residing as closely as possible to their employment.

"It is time that a stop was put to this by legislation being passed which will make it impossible for any person to sell residential areas unless provision is made for the properties fitting into a clearly defined scheme of roading, drainage, water-supply, lighting for the future, even though their necessity at the present may not be so apparent. Coupled with the public utilities I have mentioned is one other—namely, that from every block of land which is sold for residential purposes there should be set aside by the owner as a gift to the people necessary reserves for public utilities, such as schools, post-offices, parks, rec-

reation-grounds, and open spaces. The property-owner who is going to draw large profits from the community must, in my opinion, be made responsible for the needs of that community in the matters to which I have referred. This is a most important phase of the whole subject, for the reason that the village of today in ten years hence is the township, in twenty years after it has possibly become a town district or borough, and fifty years later may be the prosperous miniature city. On us of this generation rests the obligation of seeing that those who come after us are provided by proper town-planning schemes with those things which make for healthy environment, recreation areas, and the absence of slums. How these things may be best secured by legislation and the creation of a healthy public opinion is the business of this Conference to consider.

"One of the greatest problems of the present day—and it has been tremendously accentuated by the war—is that of providing for the housing of the people. The increase in land-values caused by the growth of the cities is one of the primary causes of high rent. Next in importance comes the increase in the cost of building-material of all kinds, more particularly timber, plus the increase of the cost of labour caused by the higher standard of living of today as compared with past years.

"Two attempts have been made to supply the want of homes in New Zealand. Under the State Advances Act down to the 31st of March, 1918, £3,473,000 had been advanced to workers to enable them to purchase or erect their homes, the total number of loans outstanding on that date being 9,511. Also, 648 workers' dwellings had been erected by the State under the Workers' Dwellings Act, 1905, and its amendments. The power given to Municipal Corporations to erect workers' homes has not been availed of. I am satisfied that this country must embark upon a great scheme for housing the people, and that we must "talk in millions" on this subject if we are to have a happy and a contented people. Revolution and anarchy are not bred in the houses of men who have happy homes and delightful gardens. Its spawn comes from the crowded tenement, the squalid environment, and the slum."

New Members Elected

Frederic H. Best, Cleveland Chapter.
Olaf W. Cervin, (Chapter Pending).
Franklin T. Georgeson, San Francisco Chapter.
Henry Fort Hoyt, Kansas City Chapter.
Bert D. Keck, Minnesota Chapter.
Leif Jenssen, Minnesota Chapter.
Joseph D. Leland, Boston Chapter.
Eugene Waterman Mason, Jr., New York Chapter.
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Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS, FIRE-PREVENTION, STRUCTURAL SERVICE

Roofing, continued

Felts and Fabrics

Felt Production. Felt used in roofings is produced in a comparatively few large plants. Some of these plants also produce saturated felts and prepared roofings, but, generally speaking, the manufacturers of bituminous roofings and roofing materials purchase unsaturated felt and subsequently saturate it with their own bituminous compounds.

The reason that most roofing manufacturers purchase their felt is that the mechanical equipment for its manufacture is expensive, and economical operation requires a volume of production greater than the demand of any single roofing manufacturer. Competition has forced the roofing industry, like many others, into specialization and centralization.

Wool Felt. Felt used in roofing and in waterproofing is commonly referred to in the market as "wool" felt. The use of the adjective "wool" is without justification. It is an inheritance from the time when such felts were manufactured principally of rags, which were used pretty much as they came, containing an appreciable percentage of wool. But at present, if wool gets into the felt of commerce, it does so by mistake. All rags are carefully picked over at the felt factory and the wool rags are separated and sold for "shoddy." Its value prohibits its use as one of the ingredients of roofing felt, except in infinitesimal quantities in some cases.

An examination of the felts now procurable discloses the fact that most of them are composed principally of wood pulp, straw, and a little cotton.

Chemical Properties. A brief consideration of the chemical and physical properties of wool, cotton, and wood pulp as constituents of felt for roofing will help us in reaching reasonably accurate conclusions with respect to the relative merits of the several materials used. In considering the chemical properties of each of these materials, it should be borne in mind that some of the fluxes used in making asphalt saturants for felt are slightly acid, and also that rain-water falling upon roofs, particularly those in cities and near industrial plants, carries either acids or alkalis in solution.

"Chemically, all vegetable fibers are composed of cellulose, but frequently the pure cellulose is contaminated to a greater or less degree with 'altered' products. Such combinations of pure cellulose and 'altered' products are designated bastose, and they may constitute the whole fiber, or the bastose fiber may have a covering of pure cellulose.

"Cotton fiber contains 90 per cent pure cellulose, the balance being water. Jute, from which burlap is manufactured, is composed of bastose and contains no pure cellulose. Wood fiber from which wood pulp is made, is composed almost wholly of cellulose, with a small percentage of water and traces of altered products.

"The effect of air, moisture, acids, and alkalis is different on each of these materials. Vegetable fibers of pure cellulose are not affected by even strong alkalis, whereas animal fibers (wool) are speedily disintegrated. On the other hand, certain acids, sulphuric and hydrochloric, which cause the disintegration of vegetable fiber, do not markedly affect animal fiber.

"Jute fiber, because of its original large moisture content and the small percentage of even 'altered' cellulose material, rapidly dries out and must receive special treatment with oil to insure flexibility for the weaving of burlap. When the woven fabric is subsequently impregnated with bituminous materials, unless all of the oil used in the previous treatment is driven out, complete impregnation cannot occur; and if any of the 'jute oil' remains, it acts injuriously upon the impregnating or saturating material, which induces disintegration of the jute fiber itself. This is not the case with cotton fiber. It would appear, therefore, that the impregnation or saturation of a jute fabric would actually tend to impair the life of the material."

Theoretically it might be claimed that the destruction of the conveying medium after it has served its purpose would be of little moment, and even might constitute a recommendation in favor of its employment. This would be true were it not for the fact that the destruction of the vegetable matter incorporated in the waterproofing coating has a direct detrimental effect upon the waterproofing material. The medium used for carrying or binding together and making homogeneous the actual layers or coatings of waterproofing material should be as stable a one as it is possible to secure.

Durability. From the chemical standpoint, the suitability of felt for use in bituminous roofings depends upon the proportion of wool and cellulose in its makeup, since the influence of the destructive agents upon its life varies with the percentage of these two materials present. If it might be previously determined with certainty that the roofing would be exposed to the attack only of alkalis, the felt used might with safety be made wholly of cellulose. But, on the other hand, felt containing no wool will be distinctly affected by acids. The entire absence of both wool and pure cellulose, as in the case of jute, will cause it to rot even under the attack of air and moisture.

The system under which roofings and roofing materials are distributed to the consuming public make it impossible for the manufacturer to anticipate the peculiar conditions under which his product will be expected to give service. He therefore considers only average requirements, but that very fact would seem to demand the use of a reasonable percentage of wool fiber in the felt entering into his product. Doubtless he would do this if the price did not prove an insurmountable barrier in a competitive market.

A pamphlet entitled "Facts about Prepared Roofing and Asphalt Shingles," published in 1917 by the Roofing Manufacturers' Association, contains this statement:

"The felt base (for prepared roofings and asphalt shingles) must have unusually high absorbent qualities so as to make up and retain a maximum amount of waterproofing saturant. It is not necessary that a large percentage of wool be contained in this felt; in fact, a more absorbent, stronger, and better suited felt can be secured with but few wool fibers present."

In view of the reasons given for the very general absence of wool, in "wool" felt, and in further view of the summarized opinions of commercially disinterested experts with respect to the value of wool as a life-giving constituent in felt, the reader may well ask himself whether the statement by the roofing manufacturers quoted above is not an attempt to make the omission of wool from felt appear to be the result of conscientious effort to improve the product rather than a response to the irresistible power of the competitive system of production to cheapen the product.

Physical Properties. The physical properties of a suitable conveying membrane for the bituminous waterproofing materials used in roofings are flexibility, strength, durability, and capacity for saturation. Obviously, the woven fabric of cellulose fiber, or of fiber composed of cellulose and wool, will best meet these four requirements. In the manufacture of prepared roofings and asphalt shingles, flexibility and strength in the felt or fabric are not of great importance. But in conveying membranes for built-up roofings, all four physical properties become of the utmost importance.

The flexibility of a conveying medium depends principally upon the length of the fibers of which it is composed. The flexibility of any woven fabric is superior to that of felt, and particularly of felt composed almost totally of extremely short fiber, such as wood pulp. A flexible felt must contain a large percentage of cotton or other fiber which is itself flexible and possesses tensile strength. The difficulty commonly experienced in fitting felts around the corners and angles formed by curbs and other roof superstructures is evidence of the lack of flexibility in ordinary roofing felt.

Impregnation. Thorough impregnation of the conveying medium as a protection against disintegration should be a cardinal requirement. A mere coating or partial impregnation fails in degree to give the protection demanded. A dense material, like felt, no matter of what materials it is composed, cannot be as easily and as thoroughly impregnated with a waterproofing compound as can an open-mesh woven fabric. Thorough impregnation of felt, and particularly felt containing a large percentage of wood pulp, can be secured only with a saturant of great fluidity, and fluidity is secured by cutting or thin-

ning the bitument with light volatile oils or by heating it to high temperature or by thinning and heating. To avoid charring the felt the saturant is usually made fluid by both thinning and heating.

The cost of cotton drilling prohibits its use for roofing purposes. Burlap is an inferior material and its use is justified only in cheap roofings of short life for temporary structures. Felt, to give long service, under any conditions, to possess strength and flexibility, should contain both wool and cotton fiber in appreciable percentages. But the cost of such felt would be high, and, to get it, the consumer must expect to pay the price.

Asbestos. Felts composed of asbestos fiber are used by a few manufacturers of prepared roofings, and are also used to a limited extent in built-up roofings.

From the standpoint of durability, asbestos felts are valuable. They will not decay, and are little affected by dilute acids and alkalis. They have, however, a very small capacity for saturation with a liquid bitumen, and should be used more in the nature of a protection to the membrane of waterproofing material than as a conveyor for it. Asbestos fiber, by reason of its capillary structure will hold moisture for very long periods, and this characteristic must, when the material is exposed to the weather, have a slightly deteriorating effect on the bituminous material with which it comes in contact. (See page 377, Journal of the American Institute of Architects, August, 1919 issue.) The short asbestos fiber on the surface of such felts is readily loosened, and, in the case of pitched roofs when the exposed surface of the roofing is of asbestos felt, it is not unusual to find an accumulation of asbestos in the gutters, washed down by a heavy rain. For the same reason the material will not withstand the wear of traffic.

On the other hand, its use produces a roof possessing a high power of resistance to fire, and this quality has been recognized in the Underwriters' Laboratories' classification of roofings.

Another advantage in the use of asbestos felt when exposed on the roof surface is its insulating property. Its cellular structure and its color (light gray) both contribute, the former by resistance to the transmission of heat or cold, the latter by reflection, to effecting an appreciable stability of temperature beneath the roof structure.

(Discussion on Roofing to be continued)

The Pooling of Experience

The Needs of the Profession. Each month the Editor of the Structural Service Department receives a number of questions from readers of the Journal relating to the selection of materials, the choice of structural methods, and matters of practice. Some of these questions lead to inquiries of general interest and importance, and many of them might be readily and fully answered if the questioner had access to the knowledge won from the experience of others. Nearly every problem of construction has been successfully solved by someone through the process of "trial and error," but the wisdom thus gained is a benefit to him only who has had the experience because there is no medium in the architectural profession for recording and publishing these facts as established by experience.

STRUCTURAL SERVICE DEPARTMENT

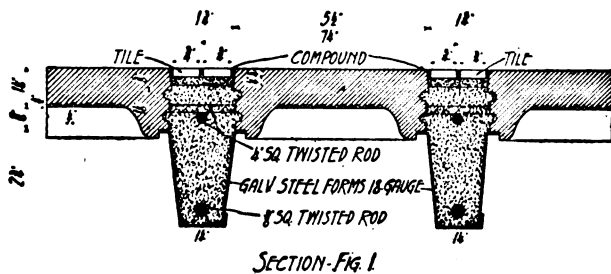
In this respect architecture is far behind the other professions. When we note the fullness of detail with which the results of experience and research are published in the proceedings of the engineering societies, in the medical journals, and the manner in which all legal decisions are preserved for reference, some realization is gained of the unnecessary difficulties and avoidable limitations of knowledge under which the individual architect practises his profession.

The fact that questions are continually asked, and that some of them cannot be fully answered by the Editor or from the experiences of those with whom he may conveniently consult, seems to indicate clearly that with the coöperation of the Journal's readers, the Structural Service Department might be made an exchange or clearing-house for ideas and advice, and thus perform the useful function of an agency for syndicating the knowledge which experience gives. Success in this undertaking, it must be understood, however, depends upon the active coöperation of the readers of the Journal.

A Unique Experience in Swimming Pools. The first matter submitted for consideration and advice has to do with the failure of a swimming-pool.

H. G. Emery, A. I. A., reports that after two years of service, the swimming-pool in the Y. M. C. A. building at Greenwich, Conn., has been abandoned because the bottom, which is of vault-light construction, has developed serious leaks due to the failure of the vault-light glasses. Mr. Emery asks for information which will help him to decide the causes of failure and to determine whether it is safe to renew the construction, taking precautions to prevent a recurrence of the present difficulties, or whether the type of construction employed is unsuitable for the purpose because of inherent structural faults which cannot be overcome.

The pool is of standard dimensions. The bottom is of reinforced concrete vault-light construction, designed to safely carry the water-load. The purpose of using the vault-light bottom was to illuminate the pool from beneath. There is a free circulation of air in the space below the pool where the lamps are installed, and there is practically no difference in the temperature of the water in the pool and the air beneath. The water has been kept at a constant temperature.



The vault lights are $5\frac{1}{2}$ inches square, cast glass, recessed on the under side and manufactured by the Jeanette Glass Company. The lights are solidly bedded in the supporting concrete. There is $1\frac{3}{4}$ inches of concrete between the glasses, and this, with the supporting concrete below, forms a beam $4\frac{3}{4}$ inches deep (see Fig. 1). Neither the

beam members supporting the glasses nor the main supporting structure has shown any measurable flexure or settlement.

About two weeks after the pool was first filled, some of the glasses developed internal fractures. As time passed the same defects developed in nearly all of the glasses and gradually extended until they reached the surface, resulting in leaks. After that the surfaces of the glasses began to spall off in much the same manner as is frequently observed in connection with the lenses in sidewalk vault-light work. The condition finally became so bad that the pool was abandoned.

Possible Causes. There are a number of possible causes or combination of causes for such a failure as Mr. Emery describes. Among them those that appear to be the most probable are:

Internal stresses in the vault-light glasses due to imperfect annealing.

Progressive expansion of the concrete due to continuous emersion.

"T" flange flexure in the concrete supporting members.

Five samples of the glasses used were taken at the time of delivery, and are in the possession of the architect. These will be examined under polarized light to determine the presence or absence of internal stresses. Dr. Alexander Silverman has given his opinion that the failure could have resulted from imperfect annealing of the glasses. Nathan C. Johnson has been consulted with respect to the behavior of concrete under continued emersion, and E. E. Seelye has been asked to study the question of design. Mr. Seelye makes the following statement:

There is a high compressive stress on the glass, due to flexure. Because of the transverse joints being filled with composition, this stress is concentrated on the lower surface of the glass and on the wall of the dome below the plate.

Assuming that glass is one-fifth as elastic as concrete, the stress on each dome is about 4,000 pounds for a 4-inch head, and 8,000 pounds for an 8-inch head.

While my authorities indicate that this stress is well within the safe compression strength of glass, still I feel fairly confident, on account of the low plane of application of this stress, i. e., mainly on the walls of the dome, that a tensile stress sufficient to rupture the glass is set up in the top surface.

However, I am not sufficiently certain but that I think a test would be necessary to prove it.

Opinions as to possible causes of the failure will be appreciated by both Mr. Emery and the Editor. A further report will be published in a subsequent issue.

More on Standards

Why Do We Have Standards? In the discussion on "Standards" published in the July issue of the Journal, reference was made to the Underwriters' Laboratories' standards and label service, and to their influence or tendency toward leveling the quality of the product downward to the lowest acceptable standard. To illustrate the result of this leveling tendency, we pointed to conditions prevailing in the hollow metal window industry and in the electrical industry.

Since the publication of this discussion, it has been stated that the condition above referred to would have developed quite irrespective of the Underwriters' standards and label service, because a large percentage of new construction is speculative, and because the owners of and contractors for such construction are, therefore, interested only in low first cost and quick sales. It is claimed, also, that the competitive bidding for contracts has effectively prohibited the purchase of the higher-priced quality products, because, either through lack of interest in or knowledge of quality the average consumer purchases on price.

There is no difference of opinion between those responsible for the statement on standards and their commentators as to the fundamental reasons why consumers very generally neglect to give consideration to those characteristics which determine its value in the ultimate sense. In the July discussion it was stated that responsibility for the demand for Underwriters' labels on anything that functioned temporarily as a window, and for "approved" electrical products, did not lie with the Underwriters' Laboratories' label service or with the manufacturers, but with the consumer who purchases without knowledge or consideration of those characteristics which give the product its value.

The problem of standards arises primarily because of the system under which both producer and consumer battle for a maximum profit, without regard for the injury they may work upon society as a whole. In admitting the need for standardization, we confess the necessity of legislating quality into the product because we cannot substitute the desire to serve for greed as the incentive in business.

The problem of standards is very much with us, and it must be solved in terms familiar to the consumer, that will aid him in purchasing value up to the limit of his ability. The standards established by the Underwriters' Labora-

tories' and the labeling of products, if judged from the standpoint of results and not of theory, certainly do not meet this need. The subject is a large and complex one, and the further discussion of it in this Department will result, we hope, in a clearer understanding of what the label really represents in the way of inspection and quality, and perhaps, also, to some corrective measures by both producers and consumers.

Lumber Standardization

On June 30, the lumber interests met in Chicago for a conference, looking toward the adoption of universal standards pertaining to commercial lumber marketable in the territory of the United States. These interests found themselves in harmony as to the advisability of adopting universal standards, and each separate faction expressed willingness to cooperate in bringing about the desired end. Meeting in a cooperative spirit, agreeing on the object to be accomplished, they took the logical step toward bringing about the desired end by placing the whole matter of drafting tentative standards in the hands of a competent technical committee, with instructions to conduct a careful research, to gather data, to hear arguments on all sides of the question, and to prepare a practical report which could be adopted by all interests involved.

This report, when completed, will constitute an authoritative textbook on the subject of commercial lumber, and will make uniformly available authoritative knowledge on proper standards of size, contour, and grading of commercial lumber. The conference marks a notable event in the history of the lumber industry. Diverse and formerly antagonistic elements have agreed to the adoption of common standards, even though each has to surrender some of his own pet notions and practices for the benefit of the community.

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Shadows and Straws

WHAT we call the practical oftentimes gets us into difficulties. For example, we have heard the most earnest discussions about housing, and the whole civilized world seems to be seeking what it calls a practical answer. But the question is stated in misleading terms, when we talk about housing, and the supposedly practical persons who are so eager to "do something," engage in their quest in that delightful unconsciousness of the truth which always seems to produce such a profound effect upon the mind of the people as a whole. The truth is that it is not houses we want, but homes! And houses do not produce homes—not all alone by themselves. Something has to go into them quite apart from all the best efforts of architects and builders. Our problem is not to get houses but to restore the possibilities of home-building to a country which has forsaken the path its founders marked out.

But the idea about homes persists, as in art, and among our "best" people, that they are things to be handed out, and that those to whom they are offered ought to be supremely grateful to those who offer them. This dangerous form of stupidity is becoming alarmingly prevalent. For example, at a conference soon to be held, where "housing" is to be discussed, the participants are to be personally conducted to one of the war-built communities, which, it is explained, was "constructed to promote efficiency in the lives of shipbuilders."

Can you imagine how the shipbuilders feel when they read such statements—and they read them? Can you imagine how you would feel if a large and pompous party of men and women descended upon your neighborhood to see how

somebody else had promoted the efficiency of your life? Will this nonsense never stop? Are we determined to become another Germany—for do not forget that before the war Germany was very busy in promoting the efficiency of the lives of its workers, by a system of paternalism unrivaled in its perfection. Can we not get back to our original conception of the United States as a nation where it is not necessary for pious people to go about promoting the efficiency of the lives of others, but where men are given the opportunity to create their own environment, their own homes, their own lives? Where the creative impulse is left free to produce art in all work, including that of making the home.

All of which leads to another inquiry, and impels one to ask: When we talk about art, its value and its use, do we not forget that its greatest function is to bless him or her who creates and produces it, and not those whom we now ask to appreciate it? Have we not again got the cart before the horse? In the last Bulletin of the Metropolitan Museum of Art, Frederick L. Ackerman has something so worthwhile to say in this connection that we reprint it herewith. The subject is "College and Museum," and the Museum deserves especial commendation for giving space to a generally unpopular point of view:

Mr. Ackerman says, in part:

The title, as suggested, presumes a statement containing constructive suggestions with respect to how the college and the museum may, by coöperative educational action, contribute to the production of art.

But this is not such a simple matter as it appears, for it is not at all clear that these two institutions are animated

by similar purposes, or even that they are animated by purposes which run in the same direction.

It therefore would appear that the first step leading toward the working out of a plan of coöperation would be that of establishing a common purpose or viewpoint which might serve to animate these two institutions in their educational effort, for unless there be present a real common purpose toward which each of these institutions would work voluntarily, any plan of coöperative action in the educational field would not be of any material value. . . .

It must be quite apparent to anyone who is at all observing that the present system of production, as carried on by modern business enterprise, runs its course quite unaffected by and utterly regardless of whatever teaching may have been carried on in our colleges and universities, and in spite of the influences which are supposed to emanate from our art schools and our art museums. It likewise must be apparent to anyone who has studied even superficially the aims of modern business as expressed in the methods of stimulating production and in the conduct of its affairs in general, that there is a clean-cut divergence in interest between production actuated by the spirit of modern business enterprises and production actuated by the instinct of workmanship.

Generally speaking, colleges and museums do not concern themselves with such commonplace matters as the conditions of production in general. They exist mainly as repositories of ideas and things, safe-deposit vaults in which are locked up certain esthetic ideas and products of the past, things to which we assign certain values—more often of a pecuniary nature than otherwise—and there the matter rests.

It is not difficult to teach "appreciation" in the sense that appreciation means merely the linking up of objects and esthetic judgments. This being such a relatively simple matter, offering, as it does, the aim and the subject matter of numerous easy "courses," our institutions have come by the notion that such teaching as we group under "appreciation" is about all that is required to promote art production. Create the demand for things of an assumed esthetic value and the production of the same will follow as a matter of course; so we say. Possibly, in a less complex society such a system of economy might suffice, but it happens that modern business enterprise is not merely engaged in the production of commodities; the major effort relates to the creation of a demand for them. And so it is that we find our effort at stimulating appreciation dwarfed completely by the businesslike activities of those who engage in a business-like way in establishing a criterion which has to serve, on the one hand, as our momentary criterion of taste and, on the other, as a rather glowing description of salable wares.

And neither in the college nor in the museum do we find an acknowledgment of the philosophy that art emerges always out of a condition of production wherein the instincts of workmanship find free expression. Here is suggested the simple, elemental truth which must be evolved out of the student's experience in college and in his contact with museums if these two institutions are to contribute more than merely establishing a pecuniary criterion of taste relating to the vendibility of goods.

A true appreciation emerges as a result of creative

experiences; and until the student in the academic atmosphere is afforded opportunity of engaging in truly creative experiences, his judgment of the values related to art will be both false and superficial. To show the student things in a museum without his ever having previously engaged in the act of creation or production; to attempt to establish his criterion of judgment by such a show-room process is to render him impotent to embrace the opportunity which is ever present in after-life of actually affecting the state of the industrial arts. And it is the state of the industrial arts which must be materially modified before art can possibly appear as other than a feeble class conscious gesture.

It is thus that we are presented with the supreme difficulty blocking the path to coöperative action between college and museum. Our educational institutions are giving an ever-increasing emphasis to the work of training the student to engage in business enterprise as it runs in modern times, which is responsible, as has already been suggested, for the state of the industrial arts—and hence the state of "Art." As the matter stands, it would seem that a fundamental change must be brought about in our general educational policies before any attempt at coöperative effort would be likely to result in any appreciable gain to art.

If the colleges were to function as the organizers of actual experiences in fabrication, using both the world of industry and the museums as laboratories, it might be possible to develop in the students something like a clear understanding of what is meant by art. Possibly the students might thus come to realize that all of those things which are stored away in museums are not stored there primarily to be reproduced in a debased form and sold after a campaign of advertising, but rather that they are there to mock and to reproach the spirit which animates modern business enterprise for its utter inability to produce really fine things.

If we wish to stimulate the production of art, we would do well first to attempt the awakening of an understanding of why it is that art does not appear as a product of modern industry. It is the act of bringing about this understanding and the act of making clear that the principal value of art resides in the act of production and not in the product, that must serve as the common ground of purpose animating both college and museum before the first hesitating steps of coöperative educational action may be safely taken.

The practical man, so-called, will immediately point out that this statement of the case offers nothing practical upon which to hang up your coat and go to work. But underlying philosophies do not appeal to the practical gentleman. He is not interested in foundations but in spires and minarets. Some day we shall learn to shun the man who calls himself practical as we would an ichthyosaurus, for we shall have learned that before starting out to "do something," you must have a philosophy based on the whole problem, and it is especially in this

SHADOWS AND STRAWS

connection that one wishes to express an appreciation of the fact that a great Museum has encouraged a discussion of this kind in a Bulletin devoted to purposes which commonly are not thought to be related to industry at all. And the word "encouraged" is used with intent, for in the last ten years I remember to have seen almost nothing of this kind in the Museum Bulletins I have watched, or even

in any publication supposedly devoted to art,—and I find it difficult to believe that encouragement to consider these questions in such bulletins was easy to obtain. But the world is a little more tolerant—not much—than it used to be, and art may get a real chance to take breath again, if people can be led to relate it to life through the productive processes.

Training the Architect by Direct Method

By ERNEST COXHEAD

THESE few notes and comments upon the Direct Method of education as applied to the study of architecture and as followed in the A. E. F. Schools of Architecture, first at Le Mans, and later at the A. E. F. University, Beaune, Côte d'Or, and the comments and suggestions here put forward relate chiefly to those methods applied in the training of the architect, which are supposed to fit him for the supreme service as an architect of creative and constructive ability. In no way is it intended that they should influence other courses of training which are necessary to fit an architect for general practice, such as draughtsmanship, specification writing, theory, history, engineering, business conduct, or other requirements. But in matters pertaining to the student's curriculum in so far as it includes the subjects of designing, construction, visualization, these ideas, which crystallized out of the successful experiment inaugurated overseas, are put forward for constructive purposes rather than mere criticism, and with the desire to lay the experiences of several months of teaching by the Direct Method open for constructive discussion as to methods of training now pertaining to our schools of architecture.

As a matter of fact, the Direct Method, as applied to training for architecture or "field work," as it was named in the overseas schools referred to, should, by its clear-cut advantages to the student, require only to be understood to be advocated, adopted and insisted upon as a major course of the student's career from its commencement in the freshman year. Instead of this, "field work" is at present generally prescribed for students toward the end or after

the completion of the four-year school course and for those who have the means and inclination for a supplemental overseas study trip.

While Europe, with its centuries of accumulated architectural treasures, affords the richest field for the study of architecture of the past and the traditions upon which we must build our ideas for the future development of architecture, after we have brushed away sentimentality, there remains as the chief asset of a course of overseas "field work" the stimulating power to visualize and interpret in terms of scale, proportion, sense of masonry, our own conceptions before transferring them to paper. Again the power to visualize architecture is not to be developed to any extent merely by *seeing* things, or by gaining fleeting impressions, but by observation, focused and concentrated upon the object in general, and in detail, by actual contact with the building and by means of measured drawings and sketches and notes, further impressing upon the mind the observations made.

The essence of the Direct Method then lies in taking the student to architecture and confronting him with it in three dimensions, *life-size*, as opposed to the atelier method of focusing his attention upon mere documentary representation of the actual building.

In the latter case his sense of scale is undeveloped, his ideas of proportion remain distorted, and, by laborious mental effort, he sometimes is able to construct in his mind from the documentary study of plan, elevation, and section what the object of study, or something akin to it, is in the reality.

The Direct Method is a reversal of this indirect method of architectural study. In the first instance, the student is taken to *architecture*; in the latter, he is referred to paper *representation* of architecture.

The question immediately arises as to how, in a country where architecture has little or none of the background of tradition found in Europe, we can incorporate, with profit, such a method of training in our schools of architecture, to any great extent or even in a supplementary way. The answer should be that tradition is something to be noted but not bound by. It records the logical course of events in the history of architecture, but after all, the important thing to the student of the art is to train his mind on logical construction, criticism of design, and the placing of ornament and to visualize these things by the most effective and expeditious methods available, using the opportunities nearest at hand for the purpose—whether overseas or in our own country.

The thought here is to show that "field work"—the Direct Method of training students of architecture—is available for use in our schools without crossing the seas. In our larger cities, especially in the East, there are many examples of contemporary work of unquestioned merit as to architectural design and esthetic excellence, and these, having withstood the depreciating and critical test of decades of time, may be acclaimed as to authorship to be the product of an epoch, rather than the individual mind, and so have come to acquire that impersonal character which fascinates the student overseas and downs superficial criticism and prejudices. This fact then furnishes us with sufficient material to warrant home training by the Direct Method.

Further, the principle of direct training as related to design, having been once established, should be made an important feature in the student's course, as also related to the fabrication and construction of everything contributing to structural problems of building.

Colleges of architecture, by the impersonality of these institutions, can sometimes obtain privileges for student bodies to visit buildings under construction or completed, private or public, or gardens, or machine shops where the individual might, without this authority, be refused access for inspection or "field work."

In further advocacy of the method, take the concrete example of two students each having a problem for study—a column or cornice. Student A finds a column in a building which pleases him, or is directed to one, and, equipped with measuring-lines, draughting material, proceeds to reproduce it on paper from the actual *live model*. By this process he has visualized without much mental effort, its shape, dimensions and proportions, and his graphic notes are further aids to memorize the parts. He has sensed the weight, texture, and functions of the column simultaneously. Further, if he has sketched the column, his knowledge of perspective has been developed. In the case of B, he has reproduced a reduced documentary representation of a column with plan, elevation, and section, further developing the drawing by casting shadows accurately, all with the same idea and purpose of Student A, namely, to visualize the functions and characteristics of a column. While B may, by laborious mental effort, finally visualize the columns in a limited sense, and has perhaps produced a more beautiful drawing, A will certainly have sensed architecture to a greater extent at least than B,—and this is what the student is training for.

Without further enlargement as to the possibilities of such training if put into operation, the experiment of training by Direct Method as conducted overseas has at least the sanction of the great master architects of old, whose methods of training and study must have been largely in accord with what is here suggested as the logical process to produce the best work and so raise the standards of architecture.

We have heard a great deal recently about ways of increasing the architect's *service* to his client. Our school curricula has been expanded and enlarged to train students in business and technical subjects having the enhancement of the architect's service in view. To this end new methods and systems have been adopted, new courses added to every phase of architectural study, with the idea of more efficient service. Is there to be no consideration given for improvements of methods now in general use by students applying themselves to the study of *design*, and with the same object in view, of effectually rendering the services of the architect more necessary and of greater value to the commonwealth?

The Department of Architecture at the A. E. F. University of Beaune, Côte d'Or, France

By JOHN BAKEWELL, Jr.

How the University Was Founded

WHILE nearly all Americans know that there was a certain effort made to introduce educational work into our army in France, probably very few realize to what an extent this work was carried. How many are acquainted with the fact that a large university was established in the heart of Burgundy, conducted by a large corps of teachers and attended by a large body of soldier students, which, in its very short existence, rivaled in size our largest American universities?

This university, which was only a part of the educational program of the army, was so elastically planned and carried on that, a few weeks before it closed, plans were still being made for its enlargement and for extended usefulness. While, fortunately, the rapid withdrawal of our armies made it unnecessary for these plans to be executed, the efficient manner in which the courses were terminated and the university closed and evacuated without confusion or friction, when it was suddenly found advisable to do so, indicate that the tentative plans for extension would probably have been realized with equal success. While the existence of this university was only a matter of a very few months, little time was lost at either end of its short life. The students and officers were assigned to the work; the teachers assembled from available material in France or brought over by telegraphic engagement from the United States. As soon as they arrived, they started their work of teaching or learning. Each instructor found it necessary to lay out his own course of instruction, and this course was, of necessity, largely personal, of such a nature that a man any distance along the road of learning could be helped a little further along that road. The school was, to a great extent, a school of individual tutoring and, for that reason, had great value. Each student started in where he had left off before he became a soldier, and many students, who had never

before had the advantage of studying with expert guidance and assistance, straightened out a great deal that they had never before been able to get quite straight.

Teacher and Student Learned Together

Each man was given the opportunity to get what he most needed at that particular moment in his chosen line of work, provided he had the intelligence to know what his need might be and to understand the answer when it was explained. Of course, this also required intelligence and patience on the part of the instructors. They were called upon to dig up many things which they might not be prepared to answer offhand, and, as a result, a great deal of midnight oil was consumed by all, with very exhilarating results. There may have been in the number some prodigies able to meet all emergencies without such preparation, but probably the most successful teaching was that which was not so ready. The fact that the answer had to be postponed until the next day did not detract from its value, and freshly acquired knowledge is always more enthusiastically and understandingly imparted to others. That the student realized that his own personal questions and needs demanded special attention and study made for a sympathy and mutual respect between student and teacher that could perhaps have been obtained in no other way. Such a haphazard system would not be possible or desirable in any institution which was endeavoring to give to its students thorough and complete training and education, but the fact that they could be used in this school gave it a peculiarly interesting character.*

The Value of Fraternal Enthusiasm

The School of Architecture was able to profit especially by these conditions. The usual

*The author here raises a very interesting question and one not lightly to be answered. There is already a noticeable tendency, in educational systems, to advance pupils in accordance with their own individual capacity rather than in groups from year to year and this method will certainly produce that very haphazardness which the author fears and yet the results of which he appreciates and lauds so highly throughout the present article.—EDITOR.

methods of teaching architecture had to be largely abandoned. It was not possible to teach the men how to design, but it was possible to show them the method of study to follow. The fact that these men were gathered together in a country rich with the finest examples of architecture, and that they should spend most of their limited time studying those examples, could not be lost to sight for a moment. The great opportunity, that so few of our draughtsmen enjoy, of seeing and studying the world's great monuments was theirs. The only question that could be raised was how best to take advantage of that opportunity. Had the men all been well advanced, or had they all been beginners, or had it been possible to grade them into groups or classes, the question of how to make the most of the opportunity would have been much simpler. As it was, some of the men were office draughtsmen without much knowledge of the theory or practice of designing; others were college-trained men; while many others were men who apparently had had no training whatever. The men covered by these different classifications had varied qualifications, so that scientific grading was very difficult, the men being roughly grouped into an elementary class, an intermediate class, and an advanced class, largely upon the information furnished by themselves on their qualification cards. However, they all had certain traits in common: willingness to work, enthusiasm and readiness to help their comrades or to receive help from them. These traits really solved the problem. The more advanced men helped those who were beginning, and all set their pace and got their information from the men just ahead, who, in their turn, were spurred on by those who were doing their best to catch up with them or to pass them by. This is always so in atelier work, and it was equally true in the field work which will be spoken of later.

The School of Architectural Design at Bellevue

In addition to the school at Beaune, the School of Architectural Design was established at Bellevue, under the personal direction of Mr. Lloyd Warren; and certain specially qualified men, instead of being assigned to one or the other of these two American schools, were assigned to the Ecole des Beaux-Arts at Paris

or to one of the Provincial French Schools of Architecture. A total of about 1,300 men were given instruction in art or architecture, about half of whom were students of architecture, while more than 1,700 additional applications had already been received from soldiers who wished to enter the School of Fine Arts but who had not yet been assigned at the time that the schools were closed. The Director of the School of Fine Arts, of which the Department of Architecture at both Beaune and Bellevue were branches, was George S. Hellman of New York.

The instruction given was in freehand drawing and sketching, in architectural design, and in field work, which was the name given to the work of visiting, studying, sketching, and measuring architectural monuments and examples. Architectural design was given the place of major importance at Bellevue, the corps of instructors including in its number Messrs. Laloux, Alaux, and Archibald Brown, although the time and attention given to field work became much more marked. At Beaune, however, field work was given the major position from the start and finally most of the energy of the school was devoted to this branch of the work. As this article refers particularly to the work of the Department of Architecture at Beaune, the remainder of it will be devoted to that school, although the work at Bellevue was equally important.

Collateral Educational Work

In addition to the field work, there was a successful course of instruction on the classic orders conducted by Mr. Monges, and an interesting course in design conducted by Mr. Hebrard. This course in design was very seriously affected by the fact that many of the men were not qualified to do the work of the class to which they had been assigned, but the time devoted to this work was well worth while, as it enabled the less-advanced men to appreciate, to a certain extent, the value of the work which they saw and studied, and also gave them a general idea of the best methods to be followed in the work of original design.

An evening series of illustrated lectures on architecture were given by Prof. John Galen Howard, and, though the attendance at these lectures was entirely voluntary, all the students

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were usually present in spite of the fact that mud and rain usually had to be braved.

Major Cunningham supplemented the course of study of the orders by lectures upon the historic development of classic ornament and mouldings, with an occasional comparison of these with those developed in the Renaissance and later periods.

The lectures upon sculpture by Lorado Taft were also attended by the architectural students, and, as Mr. Taft paid considerable attention to sculpture in its architectural uses and aspects, these lectures were highly instructive and interesting to the architects.

While all of these courses and lectures were helpful in giving the student a general idea of what to see and how to appreciate it, they, after all, were supplementary to the field work, of which we will endeavor to give a more extended description. As this particular course of study was inaugurated and conducted by Mr. Coxhead, it may be interesting to follow his experiences.

Making a Beginning

Mr. Ernest Coxhead, who later became head of this Department in the A. E. F. University, arrived in France as a Y. M. C. A. worker, in November, 1918. The fighting of the war was over and the great problems of entertainment and education of the soldiers were being worked out and developed. However, at that time, the program of instruction to be given had not been completed. Mr. Coxhead was sent to Le Mans with general instructions to give lectures on architecture and art. The precise nature of his work was largely left for him to determine. Arrived at Le Mans, he invited all men who had been draughtsman or students of architecture, or who were interested in architecture, to attend a talk on architecture. When the men appeared, the talk became more a discussion of how they could all take advantage of their opportunities than a lecture on the traditional lines. Fortunately, perhaps, Mr. Coxhead had never been a teacher or lecturer, but is very fond of sketching; he has a great love for all good architecture, and has for many years been a student of the historical monuments, especially of the Gothic and Renaissance periods. To him the natural way to interest and instruct the men was to take them out sketching and to put

them to work studying existing monuments. So they were organized at once into an architectural sketch class. In order to make this class of practical value to the men, it was found necessary to organize them and to register them as students. When this was done, the army authorities readily consented to their assignment to this work, so that the foundation of a serious class or school of architecture was soon laid. This was called the A. E. F. School of Architecture of Le Mans.

While many of the men were beginners at this kind of work, there were included in their number several artists and clever draughtsmen who set a standard of excellence, and who shared their knowledge with their comrades, thus assisting Mr. Coxhead very materially in the instruction of the other men. It was easy to select work of great interest and of considerable artistic value from the sketches, while the range of subjects included a great number of well-known monuments, so that very shortly the exhibit, which became a permanent one, grew to such an extent as to attract favorable notice from all who saw it.

How the Work Grew

The work of this school of Le Mans culminated in an extended trip to Paris and an exhibit held in that city, the men taking their drawings there with them and leaving them on exhibition while they were out continuing their study in Paris and its environs.

When the school at Beaune was organized, Mr. Coxhead was asked by Mr. Hellman, the Director of the College of Fine Arts, to take charge of the field work at that institution and he made it one of the conditions of his acceptance of that position that his old Le Mans students should accompany him.

The work at Le Mans was continued under Edmund J. Prondzinski and continued to function and develop until the end of June, when it was finally dissolved.

So the University of Beaune had the advantage of the attendance of some twenty men, who had already been working together at this work for about four months, forming the nucleus of the advanced class in field work.

The work was gradually extended to include all of the architectural and art students, and, as the advantage of this work became more and

more apparent, it was given more prominence until finally most of the time was devoted to it. As a consequence of the success of the field work at Beaune, the school at Bellevue, which was especially devoted to work in advanced design, also made the field work a feature of increasing importance, though it never reached the point of development that it did at Beaune.

What Architecture Meant to Soldiers

It was remarked by those who had charge of interesting and entertaining the soldiers in France that one of the most successful methods of entertainment was the personally conducted trips to museums and to places of historic or of architectural interest. Furthermore, the surest way to keep the soldier out of mischief and at the same time to keep him happy and interested was to make him the possessor of a camera. The camera and the sightseeing bus had an important part in keeping up the morale of the soldier after the war was won. Therefore it can be readily understood how eager were the architects, among the officers and doughboys, to do exactly what the School of Architecture offered them in the way of seeing and making records of the monuments of France.

There were certain difficulties to be overcome, even after field work had received the approval of the faculty and the university and army authorities. In the first place, in order to crowd in the other courses, which it was felt had to be conducted, the field trips or tours were arranged so as to include Saturday afternoon and Sunday. This meant that the men had no time off at all, but as the work was so interesting and so different from the more confining atelier work, no one was ever heard to voice a complaint. In the second place, the army authorities, while apparently much interested in this work and readily granting the necessary passes, and, where possible, motor transportation, never reached the point where they were willing to grant the men any allowance for expenses. In other words, the trips were all at the expense of the men themselves. The fact that the trips were partly taken out of the men's free time and almost entirely at their own expense, shows how much they were appreciated.

Mr. Coxhead was able at Le Mans to obtain transportation and communication rations for the men, but all that the combined good will of

faculty and university authorities at Beaune could obtain was permission to take the trips. However, it is a fact that what has to be worked and paid for has a greater value than what comes to one without effort.

Arranging the Exploration Trips

Mr. Coxhead had studied the possible trips for the entire course, arranging it so that the advanced class in architectural field work would make each trip first conducted by himself and Major Warren, who made the necessary military arrangements and acted as the officer in charge of the detail. The next week the intermediate class conducted by the writer, with First Lieutenant Bowman as military officer in charge of the detail, would make the same trip, and the following week Mr. Monges, with the elementary class, would follow. This schedule of trips, varying from shorter three- and four-day trips to near points up to a final trip of ten days to Paris and surrounding towns, was submitted to General Headquarters and approved by them. The longer trips were taken by rail, while the shorter trips were by bus. A description of one of these bus trips will give a good idea of the work and the way it was done.

The advanced class had just returned from a trip to Avalon, Vezelay, and Autun, and the sketches and photographs which they had brought back with them were added to the permanent exhibit and inspired the intermediate class to an intense desire to take the trip. Prior to taking this trip, Mr. Coxhead had collected all available material in the shape of photographs, brochures and guide books, and had looked up the references to the points of interest on the route, both from the historical and architectural standpoint. This collection of notes was turned over for the use of the intermediate class, with additional notes made on the trip and any advantageous revisions of the schedule, together with complete information in regard to cost. These notes and information would, of course, always be more complete when the trip was finished than before it had been taken, so that the intermediate class would have the advantage of following a beaten path, and the men of the intermediate class would see the work of the advanced class and the photographs and postal cards collected by it, and would be able to talk over the trip before starting. In



A. E. F. SCHOOL OF ARCHITECTURE.—FIELD WORK CLASS AT THE ROMAN THEATER, ARLES



A. E. F. SCHOOL OF ARCHITECTURE.—FIELD WORK CLASS MEASURING AND DRAWING THE PORTE ST. ANDRÉ, AUTUN

THE DEPARTMENT OF ARCHITECTURE AT THE A. E. F. UNIVERSITY

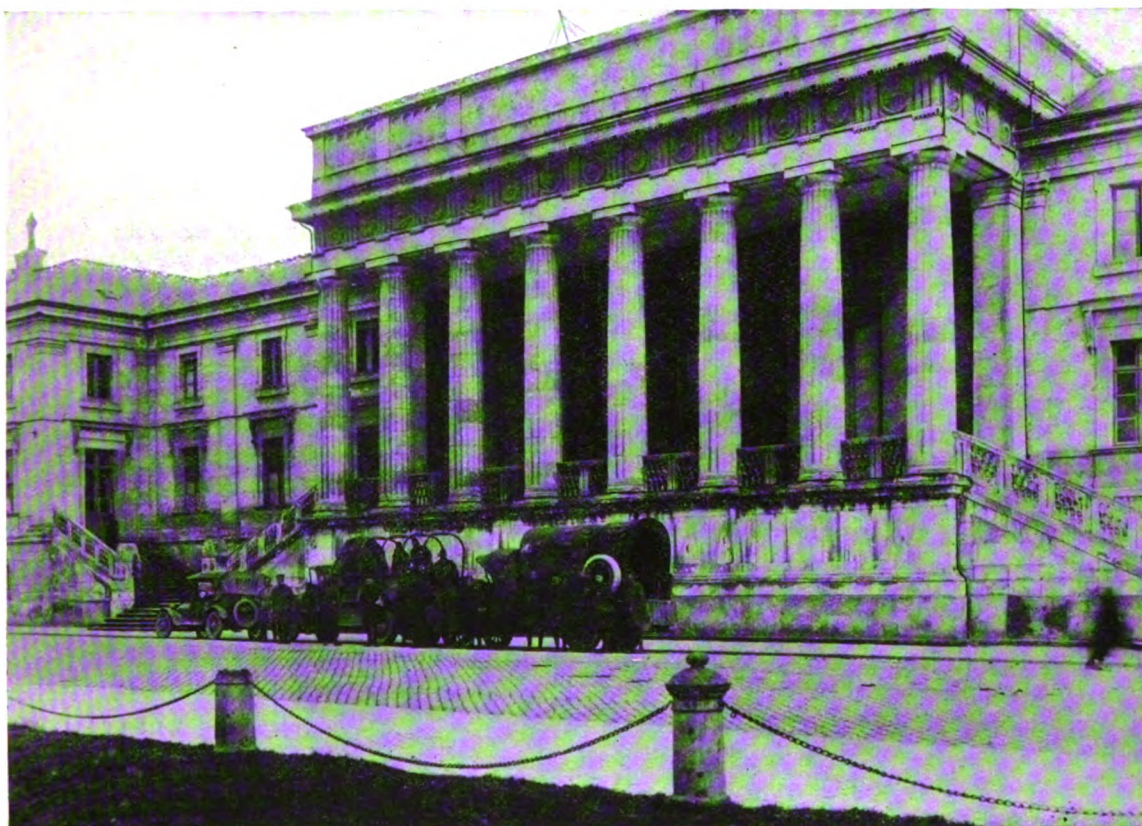
the same way, a diary of the trip of both classes, with still more information, would be turned over to the elementary class before it started on its trip to the same place.

On this particular trip, Mr. Coxhead had found that there was so much work of architectural interest that it would be better to make two separate trips, so that our trip was revised to Vezelay and Avalon with stop on return at Chateauneuf, Autun being reserved for a short trip to be worked in between the longer trips.

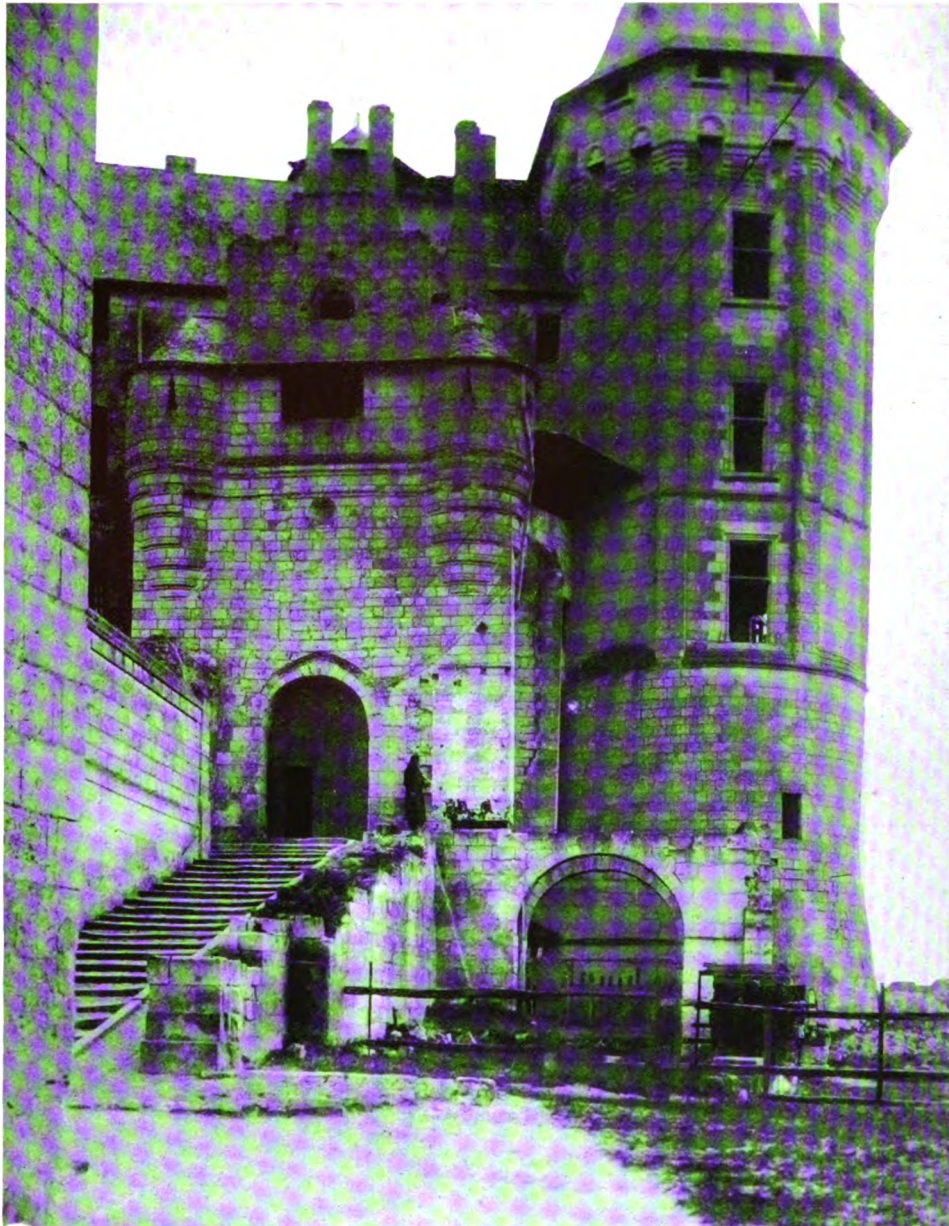
During the three days between the return of the advanced class and the starting out of the intermediate class, the data was carefully studied, while Mr. Coxhead was collecting the data for his week ahead, passes were applied for, and the busses and bus drivers were requisitioned. A description of the trip was posted and list of names of men who wished to make the trip was taken. As the men were required to pay their own expenses, it was not possible to order them to take the trips, but everyone who could possibly get together or borrow the necessary money signed his name to this list.

While Waiting at the Station—

On this particular trip we were to start in the morning at 7 o'clock, spend two nights in hotels on the way, and return on the evening of the third day. The advanced class had discovered a hotel where they could, by doubling up, obtain a room for a night for three francs each. Also, at the last moment, we found that we would be allowed to take rations in kind—very good news, as it meant a large reduction of expenses. Also we were allowed sugar money, which was largely spent on chocolate and jam purchased from the army canteen at very low prices. This meant that the trip would only cost from ten to fifteen francs, allowing for purchases of postal cards and possibly one hot meal a day. As a matter of fact, no matter how hard we worked to keep the cost of these trips down, some of the boys always upset our calculations by eating much more often than was strictly necessary, and by succeeding in paying out much more than they should for what they got. For instance, on our trip to Paris, after a large breakfast at the



A. E. F. SCHOOL OF ARCHITECTURE.—STUDENTS LEAVING THE PALAIS DE JUSTICE, TOURS

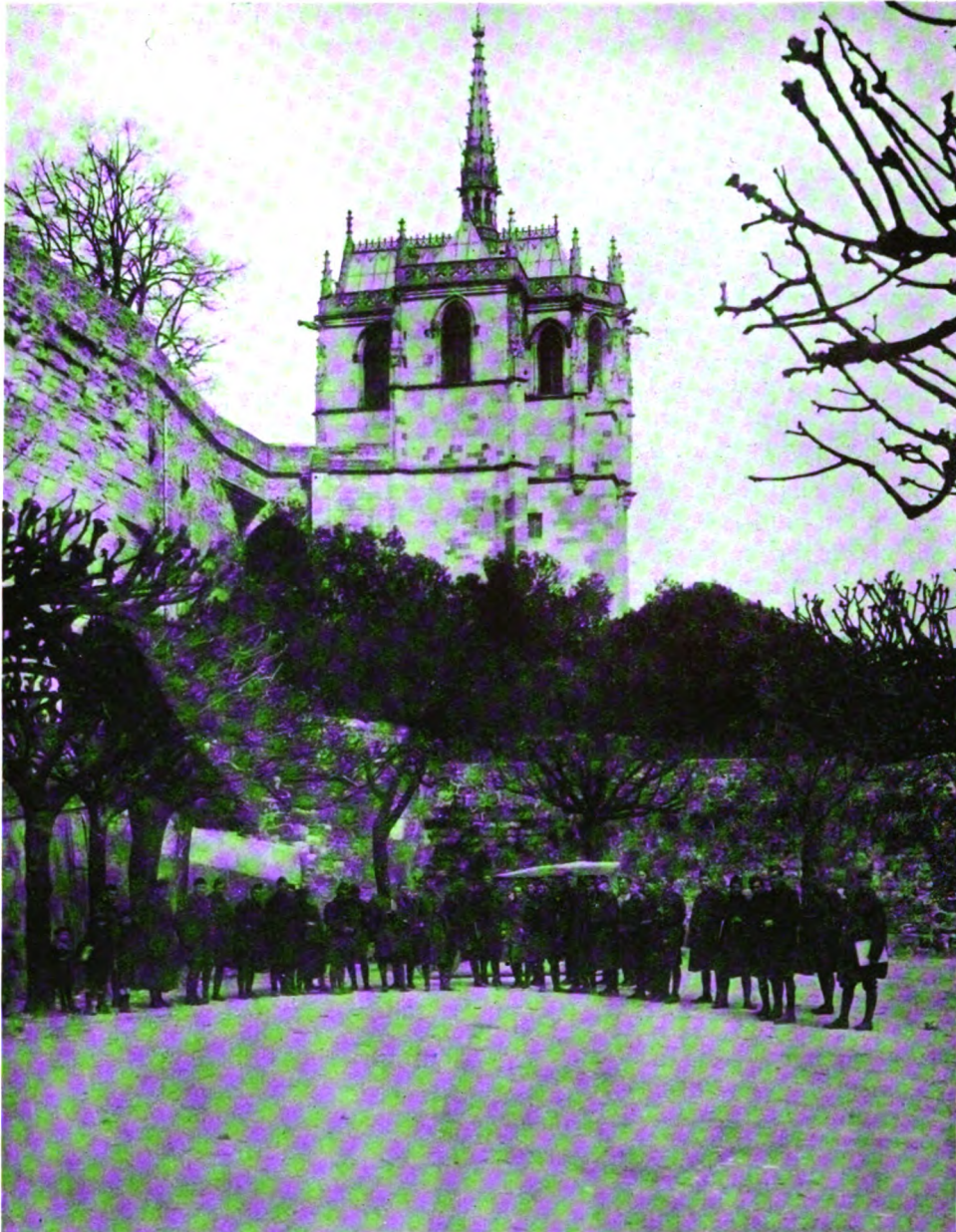


A. E. F. SCHOOL OF ARCHITECTURE.—FIELD WORK CLASS AT THE CHÂTEAU, SAUMUR

army mess, which the men were given gratis, we went to the station to take our train to Rheims and were obliged to wait for about forty-five minutes. Naturally the men decided to visit the Red Cross canteen and get some free chocolate, but found that the canteen was not yet open, so a number of them went into an expensive café, ordered coffee and sandwiches, and were relieved of five francs apiece before they could get away. And we had carefully pared down our estimate of necessary food for the entire day to five francs a head!

Camionetting to Avalon

On the appointed day two large army trucks arrived at 7 o'clock in the morning and were quickly fitted up with benches by the men, while an advanced party, consisting of two instructors, billeting officer and military officer in charge, took their places in chairs placed in a camionette. This advanced party was able to reach the points of interest on the route a short time in advance of the students, go over the ground, get acquainted with locations, and make necessary



A. E. F. SCHOOL OF ARCHITECTURE.—FIELD WORK GROUP LEAVING THE CHÂTEAU, AMBOISE

arrangements for entering grounds or buildings, so that when the trucks arrived with the students, everything was ready for a well-arranged tour of inspection and very little of importance was missed.

After the last stopping-place en route was passed, the camionette speeded on to the town of Avalon, where we were to spend the night, and by the time that the slower trucks arrived, the arrangements for hotel accommodations and meals had already been made. We found the

best method for arranging for the meals on this trip, where rations were carried along, was to turn over the necessary provisions for each meal and pay fifty centimes for service and cooking. In this way no time was lost in preparation of the rations, which were well cooked, and very attractively served. Such items as corned beef, which as ordinarily eaten is very unpalatable, when prepared by the French cook were disguised in such a way as to be very good. In fact, even the officers and men well able to pay

for their meals found the rations thus prepared as good, if not better, than the high-priced restaurant food.

Sketch Books and Ladders—Vezelay

As soon as the trucks with their loads of students arrived, we started off on our tour of the town, the principal point of interest being, as usual, the cathedral. An early dinner made it possible for the men to go back over the route and start sketches, which were finished the next day on our return to the town.

An early start the next day took us to Vezelay with a short stop on the way at the beautiful little Gothic Church of St. Pierre Sous Vezelay. This cathedral of Vezelay is a very wonderful example of the Burgundian Romanesque. Built in a remarkably short time, it is a complete conception, and while most of the surrounding buildings of the old abbey have gone, there is still a cloistered wing of great beauty which gives an idea of what the original group was. The picturesque setting of this wonderful cathedral on the top of a hill which is covered by the houses of the village, many of them come down from the Gothic and Renaissance periods, and all of the picturesque and quaint, made a picture which will never be forgotten. A careful study had already been made of the history and architecture of this monument, and this was given the students, the points of interest in the composition, the characteristics of the detail and other things of interest being discussed and explained. After we had all thoroughly familiarized ourselves with the cathedral and the town which contained much other interesting work, the men chose their subject for work. The usual method was for the men to select their subjects from a list prepared in advance, though, of course, it was necessary frequently to revise and add to this list. Two or three men as a rule would work together when the study was to be in the shape of a measured drawing, and an attempt was made to so assign the work that each man should have a very interesting subject, and one which he could handle. Ladders were borrowed and soon there were groups pretty well scattered over the cathedral, some taking measurements while others supplemented these by sketches of detail or careful measurements and drawings of mouldings, all of which would later be combined in the finished draw-

ings. The men who elected to make free-hand sketches separated from these groups so that the instructors were kept pretty well on the move, criticizing and making occasional suggestions and seeing that everyone was busy at some work which he could do to advantage. When the time for leaving came, it was always a difficult task to get the men away from their fascinating tasks, so that it was quite necessary to know where each man was working in order that at the final roll-call any missing ones could be quickly located.

The next day, after another night at Avalon, we returned and the men completed unfinished work, made a final inspection of the cathedral and town, certain new discoveries made by the more enterprising being visited, while the very important question of postal cards was looked after. Quite a number elected to work at St. Pierre Sous Vezelay and were left at that church at the foot of the hill. The postal cards and photographs, which the men always got of everything that they had seen and of a great many other things in the vicinity that we were not able to visit, served as a sort of illustrated diary of the tours and also were of great value in working up the measured drawings later on.

This gives an idea of a typical short touring trip. The country passed through is one of the most beautiful in the world, and the towns, without exception, whether they contained any great architectural work or not, were full of individuality and beauty. The doughboy had begun to wear out his welcome in the more accessible cities and towns, but here in the country, far from steam road or trainway, they were welcomed with enthusiasm and interest, so that the passing of our autos was the occasion for a general jubilation. When, for any reason, we had occasion to stop for photographs or to see some remarkable church or building, swarms of children, women, and old men gathered to welcome us. At these short stops, sketch books and pencils were out before the boys had left the bus and some very remarkable thirty-minute and even fifteen-minute sketches were made.

On our return to the school, the men had certain hours assigned for working up their measured drawings and spent pretty much all of their leisure talking over what they had seen and done on this trip, and, until we had started

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out on the next one, their questions about the reasons for this or that and their announcement of discoveries of new things of interest, showed that they had not merely been sight-seeing and sketching, but had really been learning lessons of value to them.

How the Field Trips Were Planned

The schedule of field trips of the advanced class included trips:

- 1st and 2d to Dijon: Two trips; three days each.
- 3d to Tours, Orleans and Surrounding Country: Five days.
- 4th to Avalon, Vezelay, Autun: Four days.
- 5th to Bourges: Three days.
- 6th to Avignon, Arles, Nimes, Orange: Five days.
- 7th to Paris (Rheims, Fontainbleau, Versailles, Chartres and Systematic Trip to Principal Architectural Monuments of Paris): Ten days.

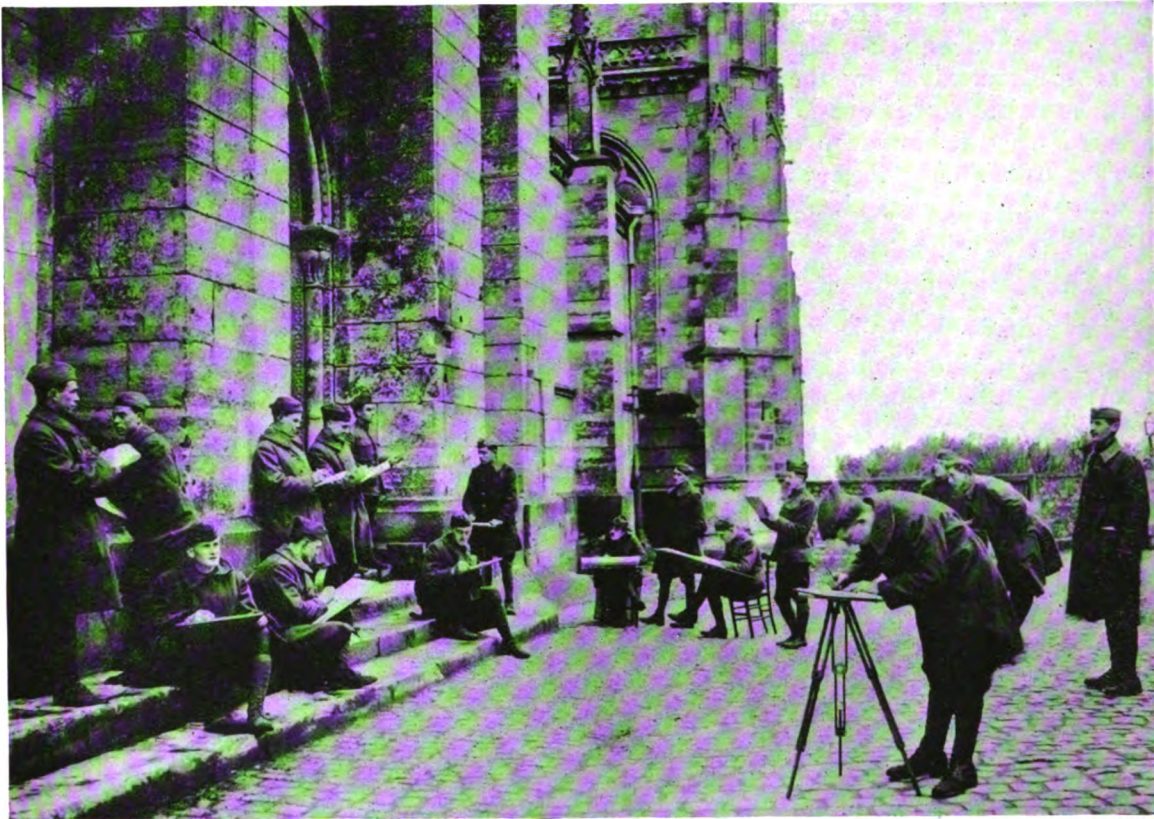
In addition, certain time was devoted to the work at the town of Beaune itself. The schedule also was to include trips to other places and districts, but owing to the closing of the school, this part of the schedule was omitted.

The periods specially covered in the work studied were Romanesque, early Renaissance and the later ones. The examples of both the early Renaissance and the Romanesque styles are especially fine in the parts of the country visited in our shorter trips around Burgundy, and, while examples of Gothic architecture were not lacking in that country, the men were able to see at Chartres, Rheims, and Paris some of the Gothic masterpieces. The fine examples of Louis XIV, XV, and XVI in Paris and Dijon were also studied, so that the styles of French architecture were all given some consideration.

While it was impossible to go very far into the archæological niceties, the men learned readily to recognize and appreciate the principal characteristics of composition, proportion, and detail peculiar to these different periods, and to make comparative studies.

American Architectural Schools Must Not Ignore This Experiment

Before closing this article, it may be well to discuss briefly the method of study here des-



A. E. F. SCHOOL OF ARCHITECTURE.—FIELD WORK AT LE MANS CATHEDRAL

cribed and to point out the absolute necessity of introducing some equivalent into our American university curriculum. The methods pursued in teaching architecture in our American schools are closely modeled upon those of the Ecole des Beaux Arts. However, we must not forget that the French students at that school are, from their earliest youth, familiarized with the best examples of traditional architecture. They constantly see and study the monuments of the past, which have actually been built in stone, brick, or wood and whose value, time and the verdict of the ages have proven. The students at the Beaux Arts are constantly referred to these existing monuments in their atelier work by their teachers. This is true not only of the reference to particular details but also to general compositions. All of the principles involved in both planning and designing can be verified and studied in actual buildings. These men are constantly sketching and measuring, either with the scale or by the eye, so that they are largely able to avoid faults of technique in their work.

To take a minor detail or two to illustrate: If a student wishes to produce a cartouche, a baluster, or a capital, he not only refers to the drawings and documents, but also goes to buildings and sees exactly how these details are executed, how the stones are jointed, how the ornament is carved, how deep the reveals are. If he wishes to see the effect of a colonnade, the depth of a reveal, he has always many varied examples to study.

Studying the Living Building and Not the Dead Drawing

Originally, the student of architecture traveled from place to place, seeing the buildings, making rough sketches and formulating architectural ideas in his imagination. He had few, if any, documents other than those of his own observation and experiences. Architecture was a naturally developed art, which went gradually forward, each building representing all the buildings which had gone before it and which were improved and varied in the latest idea. Occasionally a genius would come forward, who was able to make great progress, to evolve revolutionary ideas and to try them out to success or failure; if they succeeded the building became the foundation of a new branch of thought; if they failed the building either col-

lapsed or was ignored, according as the failure was constructional or artistic. But the building itself was the document rather than the book. These methods produced the great architecture of the world and are the natural ones to follow. However, in architecture, just as in every other branch of modern science and art, the university or school and the printed documents, whether book, plate, or photograph, have simplified and made practical other methods of education. But, while making it possible for a man to acquire a knowledge of the principles of design and of the historical development of architecture more quickly and more completely, these modern methods have taken the student from the building and have placed him at the drawing-table. He substitutes drawings for realities, and, in many cases, he studies and models his own work upon drawings of unexecuted work, which not only have not stood the test of actuality, but which have not even undergone the more serious consideration and study that is devoted to work that is actually to be built. This is the reason why it is absolutely necessary that the student of architecture should, from the first, study executed work, and the proper method for doing this is somewhat the method which was evolved in carrying on the field work, which has been described in this article.

There is no reason why the student should wait until he enters the office before he begins to study and classify the detail of executed work—and if he waits until then, he will probably have become so accustomed to substituting the drawing for the reality that he will still continue to do so.

This actual field work or study of executed buildings should form an important part of the education of the student of architecture; while we may have few buildings which rival the best work of Europe, there is an abundance of good work everywhere in America. Our domestic work especially is well worthy of study, and, with proper guidance and the exercise of a little discrimination, our commercial buildings could be made the subject of very instructive study. The important part of this study is the knowledge of architecture as the art of building: To see how designs look when executed; to learn the effect of all of those elements which we use in designing. The field work, as a study of traditional architecture, would necessarily become,

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in large part, book study or study of the photographs and plates of traditional monuments. The study of plates and drawings of the greatest buildings which have been executed all over the world should form the connecting link between the study of buildings in the field and the study of pure design. With these two additions to our usual architectural courses—field work and a serious study of traditional architecture—the work of design would be freed from many of

its present handicaps. If the proper attention were paid to getting away from the projet and back to the actual building, the gain would be very great. The projet should be the student's own work. The document should be the work which has been executed and which tradition has accepted as the best. In our American schools too often the projet is not the student's own work and the documents used are the incompleated studies of other students.

Spanish Cloisters

By GEORGIANA GODDARD KING
Photographs by E. H. LOWBER

IN the finest, perhaps, as it is the most touching, of the novels of Blasco Ibañez, the action is laid entirely in and about the purlieus of an ancient cathedral, and, in particular, in the upper parts of the cloister, where, in a series of little dwellings, the dependents and minor servitors of Our Lady's Church are born, reside, and die. The Beadles live there, the organist, the gardener of the cloister-garth, with other functionaries and their children and wives; and when a revolutionary,

wanted by the police, comes home for his brother to hide him and let him die, the cathedral reasserts a claim upon the soul that was called into being and moulded into maturity in its mighty shadow, up there above the ample and exquisite arcades of these redoubled Gothic cloisters.

This is entirely characteristic of Spain—the importance and persistence of the cloisters even in crowded cities. A moment's recollection will recall how, though at Chartres and

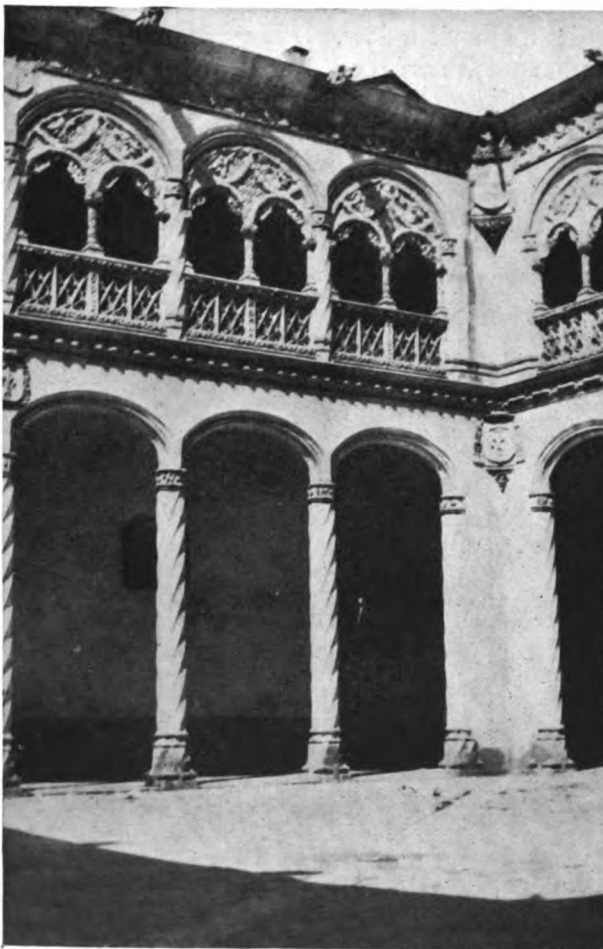


SAN JUAN DE LOS REYES

Paris there runs a Rue du Cloître Notre Dame, no cloister has survived, not there nor at Rouen nor Bourges, Toulouse nor Angers nor Amiens, to match with Leon and Burgos, Toledo, Avila and Salamanca; how almost invariably the French cloisters disappeared; how infallibly you still find the Spanish. Not only abbeys and cathedrals, but collegiate and even city churches, that have the air and customs of a *parroquia*, conserve this quiet space, set apart, walled in, fragrant with the sun. This may be due in a measure to the habitude imposed by some oriental survival in the Isidorian rule, which found the ideal life the cenobitic, like that of the Coptic monasteries which imposed upon those who had fled from the poisonous ways of cities the daily ordeal and humiliation of contact with fallen humanity, irritable and irritating. Certainly, in later centuries, it was necessary, in living under the

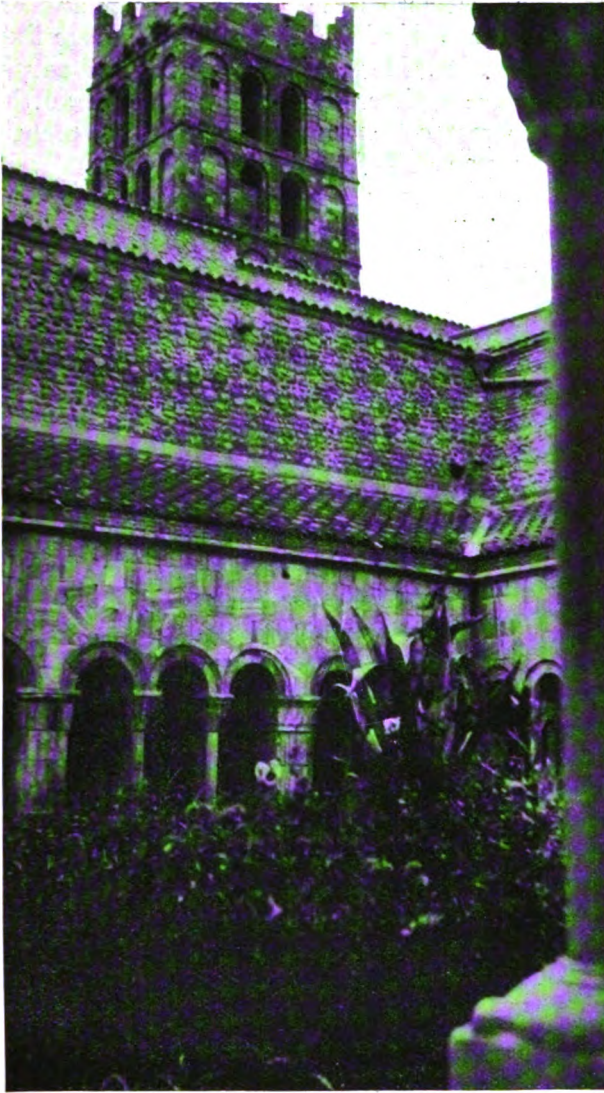
Augustinian rule, to accept that life which many cathedrals and collegiate churches, when forcibly reformed, elected, and which is, indeed, while suited to the secular clergy with its duties out-of-doors, most wise in its insistence on a common refectory, residence, and recreation. Furthermore, these huge blind cloister walls that block the way and throttle thoroughfares in Spanish capitals are the most characteristic things imaginable, both in the oriental manner of turning a blank face to the world, square after square, and in the arrogance of withholding from the city's use so much, both of house-room and right of way, that the Church's share comes out almost equal to the lion's share in the fable.

In tawny Spain, that part nearest the center, where all is city that is not desert, Leon, and the two Castiles, and Aragon, and the outlying border lands, the cloister is most precious in being precisely *hortus conclusus*. Always the soil was fruitful there, and watered—if possible, from the mountains—by “a fountain of gardens, a well of living waters.” At Irache in Navarre, where the venerable abbey encloses four noble cloisters, each four-square and arcaded above and beneath, there four fountains glitter and sing with running water piped cold from the Sierra. Where the great cathedrals, like Burgos and Leon, have lain for three generations under the power of the restorer, the springs are blocked up with rubbish and stone-dust is the soil. But elsewhere you will find them laid out in a formal garden, with box bordering the beds, as at Celanova by the Portuguese frontier, or S. Domingo de Silos, or left in a romantic tangle, with creepers threatening the stonework, like Tarragona above the turquoise sea, Fres-del-Val, or Jaca in the mountains of Aragon; only in the granite lands of Santiago de Compostella, the central space is flagged with square grey stones. At Najera and Estella the bees are in occupation; at Barcelona, for immemorial generations, white geese have been cherished like the Capitoline. An inventory or sworn statement, of 1595, affirms about the priory of S. Martin of Mondoñedo, “that the church had three doors, two of which led out into the upper and the lower cloisters, that the upper gave access to the choir; and that there was a garden with trees surrounded by the cloisters.” Another special grace of the



SAN GREGORIO, VALLADOLID

SPANISH CLOISTERS



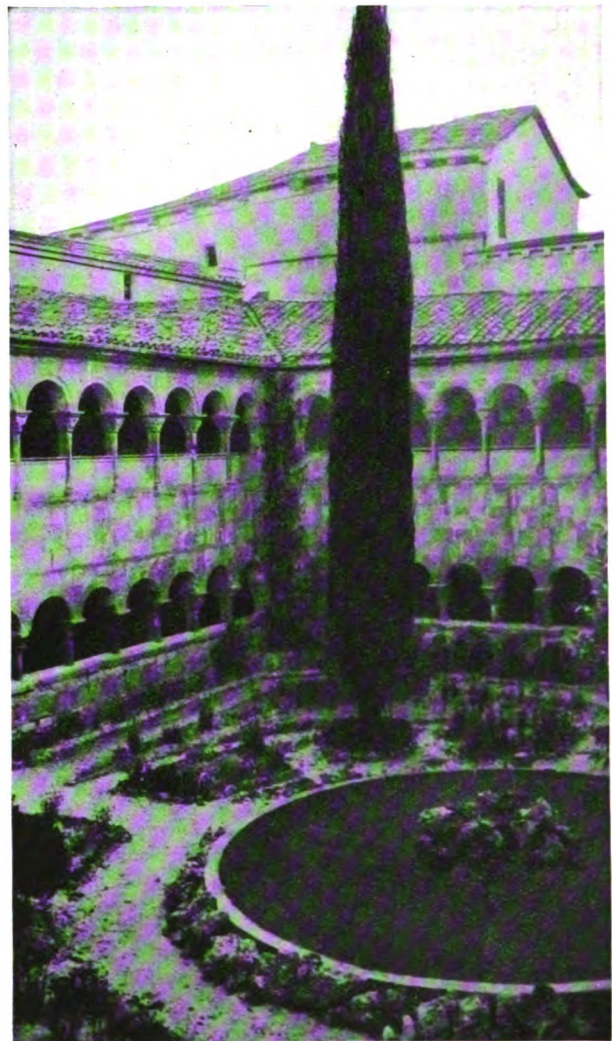
ELNE

abbeys is that where two or three stories are piled one above the other, the building often belongs to successive centuries, as, for instance, at Veruela, where the lower walk is fourteenth-century work and the upper is rich Renaissance, rather in the Salamantine style.

Often the entire cloister will have been walled up, against summer glare and winter draught, by a faithless generation, and you may trace the stages in self-protection from those of Jaca and Huesca, where the walls are a jobbing mason's work and the windows holes in the wall, down to Veruela, as neatly glazed outside the stone tracery as the orangery at Versailles. The perfect instance, however, may be found in Moncada's cloister at Tarazona,

which he built in the sixteenth century and walled up from the start, setting in the head of every bay roundels and rectangles of pierced stone-work a little in the manner used at Tarazona three hundred years before, and in the curtain wall below, beautiful florid ajimices, now sadly mutilated and despoiled. Intended to admit a tempered light in summer and a sun-warmed air in winter to the spacious walks, they seem apter, what with the luxurious designs, the rectangular composition, and the Arabic temper, to let pass a whiff of musk and the murmur of silks and women's whispering.

So little domestic architecture is there, on the whole, of an age earlier than the Renaissance, in Spain, barring the palace buildings in Andalusia, that the cloisters are the nearest we can come within reach of secular art, and it is



SAN DOMINGO DE SILOS

in them precisely that we divine the presence and perceive the hand of Mudejar or Moorish workman in the fifteenth century, of the Mozarabic craftsman in the tenth, perhaps, and beyond question in the eleventh, and, in between these two epochs, of brown carvers, circumcised or baptized or both, some bondmen, doubtless, serfs and slaves and hired artisans. At Poblet, a part of the Great Cloister belongs to the twelfth century and the rest to the later thirteenth, but the style of the capitals is continuous throughout; alike in the forms of network, of rinceaux, of overlapping leaves, you may see the Arab hand, and follow it across the Pyrenees into Roussillon, to S. Bertrand de Comminges, and from Ripoll in northern Catalonia, to Moissac. The design is composed of rather simple elements in repetition, sometimes with reminiscences of plait and strap-work, and is rarely zoömorphie. The very beautiful form of the arcades in the southern walk at Poblet will recall those of the mother-house, Fontfroide, near Narbonne; but

at Elne, just across the French frontier and in view of the Gulf of the Lion, they are more like those of Arles. Here, where the west and south half of the cloister was built in the twelfth, and the rest copied from it in the thirteenth century, you find alongside such forms as have been named, many storied capitals, and others fetched from further east, like the incomparable one that shows lion and stag entangled in one wreathing vine, and that recalls the marbles about the base of the central portal of S. Giles. Elne, in short, looks not to Limousin but to Provençal art.

Pure eastern work, and not at second hand, exists at S. Domingo de Silos, and he that carved the hard stone in low relief and vivid line, seems more like a metal-worker by trade. Arthur Byne showed at the Avery Library, last winter, some photographs of these capitals; the Fathers themselves have for sale at the Abbey a full set taken a few years ago by Dom Andrés, and the late M. Emile Bertaux published a number of these; they are, in short, so accessible that



SANTA MARIA LA REALE, NAJERA

SPANISH CLOISTERS



LA JUNQUERA

they need not be published here. The abbey is almost as easy to reach as any other, traveling by motor and then by mule-drawn diligence from Burgos for a few hours. The writer and the photographer drove down last summer, were fed by the Fathers and lodged by good women in the town, and came away content to have taken a single aspect of the mighty enclosure, its tinkling fountain quiet, its four great cypresses solemn in the latter afternoon, and to have heard the Morning Office, the Fathers at Silos being Benedictines of Solesmes and their plain-song as pure as their cloister, as incomparable in beauty. A few things there be that endure no comparison, for the Master was there. Among these are the Lady of Elche, and the capitals at Silos. A workman from this abbey passed to Estella in Navarre, where at S. Pedro la Rua he labored alongside another who knew Byzance. The kissing harpies, the lions among thick leafage, there bespeak the one, and the other, that Dormition which is right Greek and only less fair than the Entombment which precedes it along the cloister-walk.

The Romanesque beast-carving, whatever its primal source, came into Spain by two ways: one, this, straight out of the East, as at Silos, and thence Estella, with its repertory of fabulous monsters, harpies crowned and ending in a

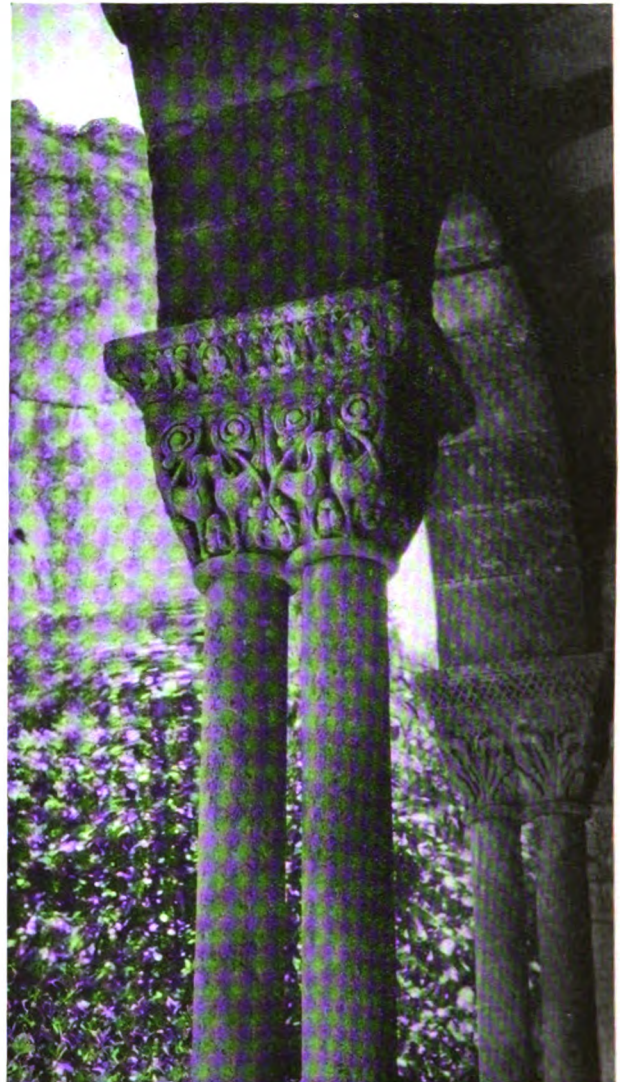
snake, sphinxes, winged and feathered antelopes bearded kingly griffins that recall the winged portal-guardians of Nineveh. The other, more commonplace, brought down lions and ostriches, sirens and dragons from southwestern France. At Aulnay, at Poitiers, and S. Eutrope of Saintes, this art flourished in its perfection, though not with richer foison. Built probably at the commencement of the thirteenth century, the cloister of S. Pedro at Soria supplies racy instances of this, not untouched by influences from Estella: it is a magnificent monument of the time, spontaneous, inventive, lyrical, anecdotic, heroic, and always strong-flavored. It may not be out of place here to remark that thanks to the Spanish sense of personal dignity, Spanish art, though often caustic, is rarely gross, the obscene mirth of the Teutonic races is replaced by an acrid criticism of life.

Below S. Pedro, in Soria, on the bank of the river, stands the roofless cloister of S. Juan de Duero, once a commandery of Hospitallers, whose Saracen slaves shaped there with interlacing arches something more like to the white enthroned Amalfi, the mountain eyrie of tawny Ravello, or Monreale emerald and sapphire-set, than this pale-colored soil, these strange-colored hills that roll up and break, on the edge of the Douro valley.

Suddenly, with the thirteenth century, tracery appears, and the ample window-lights blossom for a scant three hundred years, like those trees that in April burst into a brief flowering. The shafts are coupled in most of the Romanesque arcades, and it is characteristic of the belated styles in Galicia that at Orense, in the cloister of S. Francisco, the plain fourteenth-century arches, under a dog-tooth moulding, descend on coupled shafts. At Cistercian Veruela, in the same period, the shafts are single and shapely colonnettes; at Fres-del-Val, though the candid tracery of the rose is sure to mislead, yet not only the prismatic shafts, but the cusping of the individual lights below, betrays the fifteenth century. Here,

too, the art may lag behind, but beauty gains. The convent was founded in 1414, and the cloister will fall in the middle of the century.

As S. John of the Kings, in Toledo, was founded in 1476, the cloister belongs to the close of this century, and combines not unpleasantly the forms of the later French flamboyant, on the lower level, with reminiscences of the curves and mouldings to which English perpendicular was addicted, above. Juan Guas, who built the church and probably the cloister, was no relation of that Egas who worked for the Catholic kings in Galicia, and the likenesses which may be seen in that far-off land are fortuitous, but some parallel effects of tracery appear in the tiny ruinous scrap of cloister at la Junquera



SAN PEDRO LA RUA, ESTELLA

SPANISH CLOISTERS



SAN FRANCISCO, ORENSE

that flanks a noble transitional church, and itself, in the latest part, is full Renaissance; on the other hand, the paneling and crocketing of the Toledan buttresses is very nearly reproduced at S. Esteban de Rivas de Sil. The lower cloister there is Romanesque, though built probably in the thirteenth century, and was, I believe, barrel-vaulted, and the buttresses were enlarged when the vaults were altered and the upper work was added. Full in the sixteenth century comes that pure plateresque type which is the finest Spanish equivalent for French flamboyant and English perpendicular, and the finest instance of that is found in the Rioja, at S. Mary the Royal of Najera. There the metal-worker's patterns emerge again, this time in a paraphrase of the goldsmith's and the candlestick-maker's. The forms of stone are replaced by the forms of metal; the pierced slab into which, however chamfered, shaved, and gouged, all Gothic tracery can be resolved, is replaced, in effect, by the hammered and chased and twisted bar. At S. Gregorio of Valladolid, which is precisely contemporary with S. Juan de los Reyes, as in the palace of the Duques del Infantado, the effect of a roughened and bossy surface, which is at the same time pliable, suggests nothing so much as heavy upholstery, or embroidery stuffed, padded, and cut out.

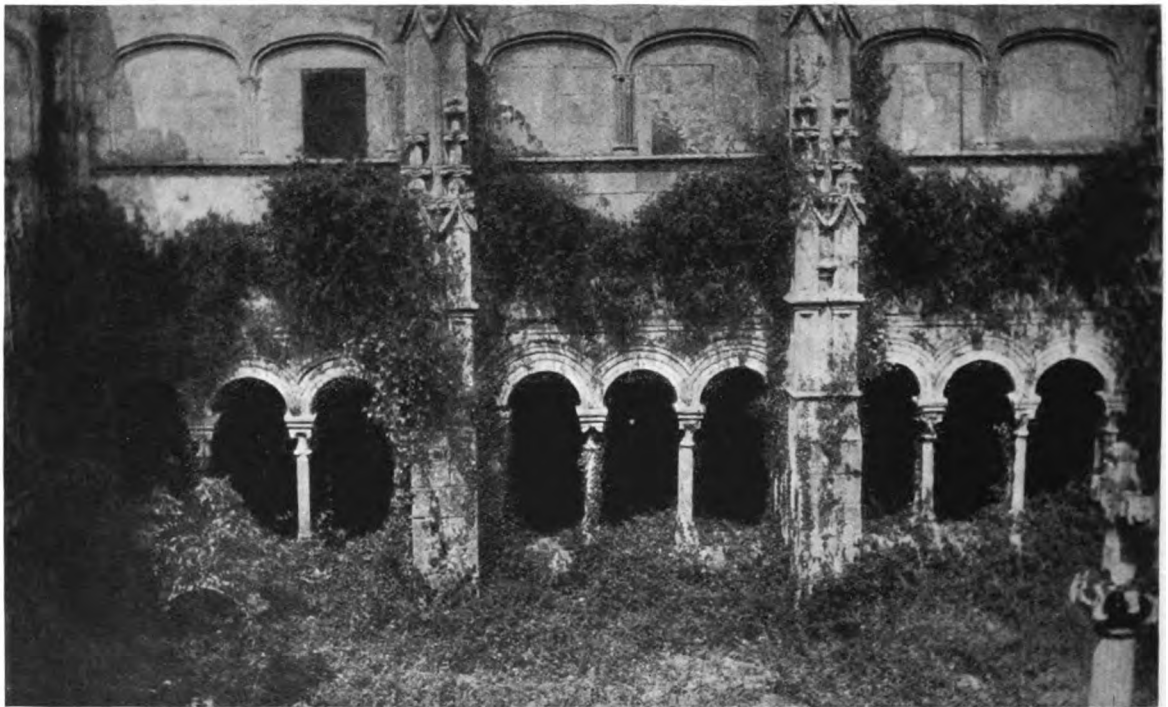
Juan de Badajoz and his pupils turned back on another aspect of the silversmith's art, and designed not only pendants that were like table-ornaments, but medallions that were like medals. But the golden loveliness of the cloisters of Irache and Carrion, like the stately grace of those at S. Millan and Celanova, cannot be considered at the end of a chapter. They belong, all alike, in the art of the Renaissance, devised at best to impart serenity rather than humility, and more often to puff up the spirit than to lift up the heart. In the Renaissance, moreover, cloister and patio tend to merge religious and secular art and become indistinguishable.

Nowhere as in Spain have the cloisters such variety, such magnificence, such charm. It is not merely that as for a church four pulpits, so for an institution four complete cloisters is no more than a just allowance, no two being alike, as in the abbey, already cited, of Irache, and the Kings' Hospital in Santiago that Enrique de Egas designed; or at Rivas de Sil where indeed there are only three but all of different epochs, or at Poblet where, complete or partial, five or more may still be viewed. At Najera the name of Cloister of the Knights implies another for the monks. It is not even that they meet all needs; that at Salamanca as well as at Padua you may walk the studious cloister's pale, and at Gerona as at Cambridge,

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with a difference, you may love the high-embowed roof; it is not quite that a cloister is the most romantic thing in the world—it is also the most delightful. An English cloister, with its twisted cedars of Lebanon, its brilliant short grass, fine like hair, and, like that, brushed every morning, its empty echoing walks paven and set thick along the walls with the memorials of the long-dead, the brasses of the unforgettens, the bright stones with not yet withered wreaths, was for us Americans a sort of emblem or symbol of the quiet England as precious, as well-kept, as cherished as someone's beautiful old mother, which we shall never see again. But in Spain, where human nature is more homogeneous, the cloister is a part of life, like the Plaza Mayor or the public fountain. In Santiago, Canons walk up and down there to smoke between the psalms; in Burgos, the tapestries are hung there on high festivals and the chapter goes in procession, sweeping the congregation after it; in Pampeluna the acolytes in candle-spotted

scarlet play at bull-fighting through sermon-time; at Barcelona the cloister offers the shortcut across town; at Seville, the library is lodged on top of it. It is made of all delights; the beauty of Gothic, without the austerity of the church; the sweetness of gardens, with yet the quiet of builded stone. Pacing the long enclosure, crossing bands of shade and sun, of warmth and chill, of fragrant gusts of grateful hush, as the eye follows up the long lines and loses itself in the tracery, nowhere twice alike, nowhere out of the tune, or scans the sun-gilt face of the stones, where successive centuries have emulated or imitated each other's excellence, the rhythm swells into a rune. You are lulled and beguiled at once by the spell of mingled strength and grace, of quietude and loveliness, long known yet now envisaged as for the first time, which is the peculiar magic of architecture, and the most desired enchantment of foreign lands.



SAN ESTEBAN DE RIVAS DE SIL

What Were the Medieval Guilds?

I DARE say that at the beginning of the war when the Germans entered Belgium, were held briefly at Liège, and then swept on to Brussels and the medieval towns of Flanders, there were many who shared with me one dread, among others, of what might happen to those historic cities. Undoubtedly there are many who have stood, for example, in the Grande Place at Brussels where are the Halls of the Guilds, and perhaps it was fear for the Grande Place that was the strongest of all fears, even though there were Bruges, and Ghent, and Malines, and Ypres to be remembered. But surely no one could ever stand in the Grande Place at Brussels without asking how it was that the Guilds had waxed to such prosperity as was evidenced in their buildings and why it was that the Guilds themselves had almost completely disappeared.

The Guilds Spirit Still Lives

And I say almost completely with good reason, for if one had the patience to explore old Flanders at leisure there were traces of the Guilds still to be found, in the years before the war. I have shot arrows with the Archers' Guild and I have played at bowls with the Bowlers' Guild, and both of them have been in existence more than 600 years. But these were hardly like the Guilds of weavers and spinners, of builders and gold-beaters, of fishermen and butchers, whose function it was to produce food, clothing, and adornment for the people of the Middle Ages. These were the Guilds we remembered in that never to be forgotten pageant of a dozen years ago, when all Belgium celebrated its independence. We watched that pageant stream through the Grande Place for hours in all its unmatched glory of medieval splendor. Those are the Guilds of which we think when our mind runs back to the craftsmanship of that time. We know that they produced sound wares and beautiful things. We know that they had traditions of workmanship and of comradeship which were profound forces in guiding industries. We even know that at that time art had not become separated from industry. The two went hand in hand and the creative impulse had not disappeared from workmanship. Over architects especially the Guilds have always exercised a profound fascination. We find it difficult to believe that either before or since was the art of building carried to such a joyous perfection, while in the thousands of things which go to mar or enhance the beauty of architecture, we also find an equal perfection. In furniture, tapestries, brasswork, ironwork, linen and embroidery, paintings and carving—even in the pots and pans of the kitchen, all things were made to serve their purpose long and well. Art bloomed like a rose. We cannot think of those days and of the workmanship or craftsmanship of that time without a pang of regret. We would even like to go back, some of us think, at times, if that were possible, although it is very certain that we would find it very difficult to adjust ourselves to many of the less-pleasant exigencies of life in the Middle Ages.

The Guilds and Modern Industry

What were the Guilds? How were they organized? What were their aims? Why did they die? These questions seem unusually interesting at the present time when the whole industrial world is in a state of fermentation and when men everywhere are seeking to lay hands upon causes and remedies, and almost unconsciously one turns back to the Guilds period for their art as well as for their industry, if he believes, as I do, that we cannot solve either problem alone; and even those whose concern is less with art and more with industry are looking backward in search of a cure for their difficulties and are trying to discover whether there were not basic principles in the Guild organization and aims, and whether such principles may not be resurrected and injected into our present restless and unsatisfying industrial order.

A New Book About Guilds

Among many interesting volumes which I have read in connection with Guilds and Guild principles, there has come into my hands a little pamphlet entitled "Guilds in the Middle Ages" written by Georges Renard. It has been translated by Dorothy Terry, and edited, with an introduction, by G. D. H. Cole, whose analysis of the proposed plan for the reconstruction of the building industry of Great Britain was published in the last issue of the Journal. In his introduction Mr. Cole calls attention to the fact that for some unexplained reason there has not yet been published a simple introductory study of Medieval Guilds. Of course it might be answered that it is not easy to write a simple study of this kind, since the subject is more or less exhaustive, and if considered from its earliest beginnings it would no doubt go far back into the past. But, curiously enough, Mr. Cole calls attention to the fact that the earlier trade unions "often sought to establish their direct descent from the Guilds of the Middle Ages," and also recalls the ambitious projects for a Builders' Guild in England as far back, in modern times, as 1834. We all remember, of course, the writings as well as the labors of William Morris, to whom the Guilds made an insistent appeal, and who, like John Ruskin, worked incessantly with voice and with pen to stem the rushing tide of capitalistic industry. Today, when the National Guilds movement is so prominent in England, and when many of the Guild ideas are being borrowed by various groups of employers or employees—sometimes working alone and sometimes working together—the need for more knowledge of the medieval Guilds is growing. We want very much to know what were their good points and what were their bad ones. For inquiring minds, the little pamphlet to which I have referred will prove exceedingly valuable. It is written by a man of large social vision who, like most other reasoning beings, cannot reconcile himself to the present industrial system in which the seeds of quarrel and strife are everywhere; and yet, even for the

sake of proving a clear case for the medieval Guilds, he does not in any way neglect to point out their defects.

The Guilds' Volume of Industry

Of course, the Guilds are essentially connected with industry,—with the process of making things,—and in his preface Mr. Cole points out the fact that in medieval times industry was relatively a very small percentage of the world's activities. Agriculture was the predominating task. This, in its turn, was intimately related to the feudal system, whereunder the lords and barons controlled considerable areas of cultivated land. Industry, on the other hand, as it began to grow in volume, became intimately associated with town life. Accordingly, as the towns grew in size and as industry likewise grew, so the Guilds waxed stronger in numbers and in influence, and began to play a part in the affairs of state. The Guilds never attained such numbers or strength in England as they did on the continent, and this, curiously enough, because, up to the time of the invention of the steam engine, England imported her manufactured goods and was an exporter of raw materials,—quite in contrast to her position during the century of industrial development that followed after Watt and Stephenson.

The Guilds System

The origin of the Guilds has been involved in considerable discussion, but this aspect of their study does not seem vitally important. Our inquiry, to be useful, should be directed toward the flourishing Guilds of which we have heard so much. We would like to know something of their organization and the methods by which they conducted the various crafts, and the first thing we discover is that the Guilds were not all alike. "It is sometimes imagined," says M. Renard, "that the Guilds included all the merchants and all the craftsmen in one region. This is a mistake. At first those who lived in the country, with rare exceptions, did not belong to them; certain towns, Lyons for instance, knew nothing of this method of organization, and even in those towns where it was in existence, there were trades which remained outside and there were also isolated workers who shunned it—home-workers, who voluntarily or involuntarily kept themselves apart from it." Under the feudal system a man became first a page, then an esquire, then a knight. It has been very generally supposed that the same method applied in the Guilds, and that men rose from the rank of apprentice to that of companion and then to that of master. M. Renard points out that this form of promotion did not exist as a regular thing; that apprentices frequently became masters at one jump, and that mastership often became hereditary. "The truth is," says he, "that Guild organization, even within the walls of a single town, presented several different types. It might be simple or complex; it might be either half democratic or capitalistic in structure." The Guild was simple when it included only one trade, which was very often the case, but it is easy to understand how the Guilds became complex when they were composed of workers in crafts which were closely related. Naturally, as industry grew, there were changes in process and a consequent tendency to draw the line very strictly around divisions of the producing elements. But the simple Guild

was usually half democratic and assured identical rights to everybody within the grades of which it was composed. "Masters, journeymen, and apprentices were ranked one above another, but those of the same grade were equals. Inequality could be, theoretically at least, only temporary, since the master had once been a journeyman, the journeyman was a prospective master, and the apprentice in his turn would climb to the top of the ladder. This state of things, however, was only to be met with in the building trades, in 'small' industry and 'small' commerce—the most numerous it is true, but not the most powerful. There alone was almost realized the idyllic picture of the workman working in the workshop beside his master, sharing his life, eating at his table, his partner in joys and sorrows, joining him in processions and at public ceremonies, until the day when he himself should rise to be a master."

Apprenticeship

One can easily understand how in a Guild of this nature the apprentice was regarded by the master as something more than "labor." Very often the apprentice was likely to be no more than a child ten or twelve years of age. Thus the master had often to fulfil the functions of father and of teacher. An apprenticeship might cover a period of from one to twelve years, and usually the child's parents or guardians were obliged to make some sort of a contribution to the master, either in money or in kind. The apprentice was lodged, fed, furnished with clothing and light, and his supervision and teaching went on in the house of his master. Naturally the agreements binding the apprentice were variable in character and were no doubt dependent upon the indicated measure of ability of the apprentice in one case or upon the condition of affluence of the parents or guardians in another case. Both master and apprentice had certain obligations which each solemnly swore—for solemn swearing was much practised in the Middle Ages—to do certain things, and for the non-performance of contracts the Guilds prescribed a punishment. Undoubtedly the life of the apprentice was not "all beer and skittles." Occasionally, at least, it must have been very unhappy. Yet M. Renard finds it hard to believe that the apprentice in medieval times was as badly off as is the child of modern times in the same relative position, who is driven to labor at an early age.

Craft Rights

The history of the Guilds seems to be marked by a continual struggle to define and safeguard the rights of its members, but as the Guilds were living organisms there seems nothing strange about this struggle. The length of the working day, for example, was regulated by the daylight and lighting being very imperfect night work was forbidden, since the Guilds realized that good work could not be done in poor light. This was one of the rules that could not be broken, except under the most exceptional circumstances, and the privilege of breaking it usually was conceded only to those who worked for the king, the bishop, or a lord. And yet it is amusing to consider how even so simple a rule as that which measured the working day by the hours of daylight could become a subject for dispute. In Paris, for example, as the city grew, the workers found themselves ever farther and farther sep-

WHAT WERE THE MEDIEVAL GUILDS?

arated from their work, and it is on record that they frequently complained of being kept too late. They could not reach their homes before dark and then were at the mercy of thieves and footpads. How hard it is indeed to make a rule!

Wages

One aspect of any inquiry into the Guild system must certainly concern itself with earnings. But here again it is idle to discuss earnings without discussing their value. We can make no comparison of the welfare of a medieval worker with the welfare of a modern workman by attempting to measure it by the amount of money received as wages. We must first translate money into the necessities of life, and any inquiry into the status of the worker under the Guild system must concern itself with relative living conditions. Was he better off or worse off? In this connection M. Renard summarizes the conclusions which have been drawn by historians and states the belief that it was easier for a workman's family to make both ends meet in those days than it is now. He believes that the position of the journeyman was at least equal, if not superior, to that of the workman of today, from an economic point of view. But, in addition, he considers it to have been better morally. Also, and of very great importance in trying to establish the relative position of the workmen of the Middle Ages with the workmen of today, it is to be noted that the former was his master's "companion in ideas, beliefs, education and taste and that he always had the possibility of rising to the same social level." I dare say that no conclusion can be substantiated by unquestioned proof and that we shall never be able to say authoritatively which workman was the better off, but the heritage which was left us by that period is irrefutable, as far as it goes, and must incline any impartial observer to believe that industry, in those days, was at least a more merciful institution than today.

Women in the Guilds

Women were not excluded from the Guild life. "It would be a mistake," says M. Renard, "to image that the woman of the Middle Ages was confined to her home, and was ignorant of the difficulties of a worker's life. In those days she had an economic independence such as is hardly to be met with in our own times. In many countries she possessed, for instance, the power to dispose of her property without her husband's permission. It is therefore natural that there should have been women's Guilds organized and administered like those of the men. They existed in exclusively feminine crafts; fifteen of them were to be found in Paris alone towards the end of the thirteenth century, in the dressmaking industry and among the silk-workers and gold-thread workers especially. There were also the mixed crafts—that is, crafts followed both by men and women—which in Paris numbered about eighty. In them a master's widow had the right to carry on her husband's workshop after his death. This right was often disputed. Thus, in 1263, the bakers of Pontoise attempted to take it from the women, under the pretext that they were not strong enough to knead the bread with their own hands; their claims, however, were dismissed by an ordinance of the Parlement. Another decree preserved to

the widows this right even when they were remarried to a man not of the craft. Nevertheless, in many towns, above all in those where entry into a Guild conferred political rights and imposed military duties, the women could not become masters. Condemned to remain laborers, working at home, and for this reason isolated, they appear to have been paid lower wages than the workmen; and certain documents show them seeking in prostitution a supplement to their meager wages, or appropriating some of the raw silk entrusted to them to wind and spin. But other documents show them as benefiting by humane measures which the workmen of today might envy them. They were forbidden to work in the craft of 'Saracen' carpet-making, because of the danger of injuring themselves during pregnancy. This protective legislation dates from the year 1290; for them, as for children, exhausting and killing days of work were yet to come. All the same, one can see the tendency to keep them in an inferior position for life, and, taken along with the strikes and revolts, the first appearances of which amongst weavers, fullers, and cloth-workers we have already mentioned, this clearly shows that, side by side with the half-democratic Guilds which were the humblest, there existed others of a very different type."

The Seed of Destruction

It is when we come to study the great commercial and industrial Guilds that the profound inequalities begin to appear, and here the woollen industry furnishes a striking example, to illustrate which the following quotation may serve: "The manufacture of cloth (which was the principal article of export to the Levantine markets) was the most advanced and the most active industry of the Middle Ages, with its appliances already half mechanical, supplying distant customers scattered all over the world. It was the prelude to that intensity of production in modern times which is the result of international commerce.

"The wholesale cloth merchants no longer worked with their own hands; they confined themselves to giving orders and superintending everything. They supplied the initiative; they were the prime movers in the weaving trades which depended on their orders; they regulated the quantity and quality of production; they raised the price of raw material and the workmen's wages; they often provided the appliances for work; they undertook the sale and distribution of goods, taking the risks, but also the profits. Already they were capitalists, fulfilling all the functions of captains of industry.

"What became, then, of the intimate and cordial relations between masters, journeymen, and apprentices? The Guilds began to assume a character unlike anything which could exist among the clothiers or blacksmiths for instance. This new state of affairs suddenly arose at Florence in the *Arte della Lana*. At some periods of its existence this Guild had a membership of 20,000 to 30,000, but it was like a pyramid, with a very large base, numerous tiers, and a very small apex. At the summit were the masters, who were recruited entirely from among the rich families and formed a solid alliance for the defence of their own interests. Forced to guard against the perils which threatened their business on every hand—the difficulty of transport, a foreign country closed to them by war or by

a tariff, the jealousy of rival towns—they tried to recoup themselves by employing cheap labor, and, remembering the maxim 'divide and rule,' they ranked the workmen they employed in different degrees of dependence and poverty.

"Some classes of workers, such as dyers and retailers, were affiliated to the *Arte* under the name of inferior *membri*. True, they were allowed certain advantages, a shadow of autonomy, and liberty of association, but at the same time they were kept under strict rules and under the vow to obey officers nominated by the masters alone. Thus the dyers were not allowed to work on their own account, and were subject to heavy fines if the goods entrusted to them suffered the slightest damage; the rate of wages was fixed, but not the date of payment, which was invariably delayed.

"On a lower tier came the weavers and the male and female spinners; both classes were isolated home workers under the system of domestic manufacture, which is highly unfavorable to combination and therefore to the independence of the workers. The weavers, whether proprietors or lessees of their trade, could not set up without the permission of the masters who held the monopoly of wool, on whom they therefore became entirely dependent. They were piece-workers and had no guaranteed schedule of prices.

"The spinners lived for the most part in the country, and this country labor served, as usual, to lower the rate of wages in the towns; perhaps this was why the Florentine tradesmen favored the abolition of serfdom, for the reason that its abolition took the peasants from the land and left them free but without property, thus forcing them to hire themselves out, and so creating a reserve army for the needs of industry. The masters invented a curious method of keeping the women weavers in their power. Every year the consuls obtained pastoral letters from the bishops of Fiesole and Florence, which, at Christmas, Easter, Whitsuntide, and All Saints, were read in the villages from the bishop's throne. In these letters the careless spinner who wasted the wool which had been entrusted to her was threatened with ecclesiastical censure and even with excommunication if she repeated the offense. An excellent idea indeed, to use the thunderbolts of the Church for the benefit of the great manufacturers!

"On a lower tier again we find the washers, beaters, and carders of wool, the fullers and the soap-boilers, who formed the lowest grade of the laboring classes—a true industrial proletariat, wage-earners already living under the régime of modern manufacture. They were crowded together in large workshops, subjected to a rigorous discipline, compelled to come and go at the sound of a bell, paid at the will of the masters—and always in silver or copper, or in small coin which was often debased—supervised by foremen, and placed under the authority of an external official who was a sort of industrial magistrate or policeman chosen by the consuls of the *Arte* and empowered to inflict fines, discharges, and punishments, and even imprisonment and torture. In addition, these tools or subjects of the Guilds were absolutely forbidden to combine to act in concert, to assemble together, or even to emigrate. They were the victims of an almost perfect system of slavery."

Administration

In their early administration the Guilds were almost uniform. Workers associated themselves voluntarily and were only admitted under strict qualifications. Government was thoroughly autonomous, and within the limit of its jurisdiction the Guild was self-governing. The law-making power was held by the General Assembly, and no act affecting the Guild as a whole could be carried through without ratification by that body. But as the business of the Guild grew in extent and complexity, it became necessary to set up executive officers who could act in the name of the Guild. None could escape this duty if it were assigned to him, a provision which seems eminently sound. But in studying administration it is better, as M. Renard observes, to study at the same time the aims of the Guilds which he considers to have been three—economic, social and moral, and political, and also to study their methods.

In their economic aim the Guilds stood for integrity in production. They went into the most minute details in prescribing how work should be done.

The Honor of the Crafts

The honor of the craft came first. Its members took pride in officially guaranteeing their wares to the consumer. Every precaution was taken against bad work. The masters pledged themselves to use only raw materials of a certain quality. "The tailor who spoilt a garment or kept a piece of cloth entrusted to him was made to pay back his client and was punished by his fellows. The Guild prided itself on letting nothing leave its shops but finished products, perfect of their kind; it examined and stamped every article, and further required that it should bear a special trade-mark stating where it was made and its just price. . . . Sale was as carefully watched over as production. . . . One serious result of this constant and perfectly legitimate effort to assure the success of the Guild," says M. Renard, "was that it produced a strong desire to reduce, or if possible do away with competition. The Middle Ages did not understand rights except under the form of privileges, and the Guild always tended to arrogate to itself the monopoly of the craft which it carried on in a city."

The Beginning of the End

Naturally, one competition bred another, and the Guilds seemed wholly unable to adapt themselves to the process of evolutionary growth in man; but when we come to examine into the disease to which the Guilds finally succumbed we are obliged to conclude that the accumulation of wealth in the hands of a minority that grew relatively smaller and smaller was the germ of their death. Wealth accumulation was relatively a small factor during the early history of the Guilds. Industrial processes were slow, and markets were small. But as commerce expanded and as the means of shipment were increased there came a consequent demand for production in larger and larger quantities. Profits rose by leaps and bounds but it was the masters who took the lion's share. Besides this, other elements had entered into commerce. The banker, the broker, the shipper, all exercised an influence upon the Guild system. The structure was not strong enough to

WHAT WERE THE MEDIEVAL GUILDS?

resist. The guildsmen were unable to control the stream of gold which flowed into the commercial and industrial centers of medieval times. M. Renard has two excellent chapters on the causes of Guild decay in which he deals with both the external and the internal factors. But it is impossible for me to draw any other conclusion except that the Guilds were thrust aside because, having themselves made possible the quick accumulation of large wealth, they could not, in their turn, offer antidote to the poison. Through their organization and aims they were able to produce merchandise and wares of the finest quality, renowned throughout the world, yet they had not been able to devise a system whereby this very perfection of production would be prevented from bringing the whole structure to the ground. The moment the Guilds allowed themselves to be completely captured by the shrewd men who saw the possibilities inherent in the capitalistic system of industry, they were doomed, but they fell only because they themselves had developed and nurtured the capitalistic germ. This may be said to have been almost harmless in the early stages when all was on a small scale, and when it was therefore comparatively easy to preserve the element of democracy, but with the multiplication of human productivity by machinery the possibilities for exploitation developed with astonishing rapidity, and the workman soon sunk into the morass where labor became a commodity and no longer entitled to consideration as a human being.

What We Must Learn from the Guilds

At the same time, the Guilds did possess one basic principle which we must deny at our peril. They believed, surely, in the beginning, in the theory that industry was an honorable service and that work was a noble function.

They believed wholly in quality and cared nothing for quantity. Profit was incidental and was gauged by the value of the service rendered and not by the ability to make it as large as the traffic would bear. More than that, the principle of organization along vocational lines led to the upbuilding of high principles for industry as a whole and we may imagine with what reluctance and despair the workmen of the later days of the Guilds saw the whole fabric crumble and tumble as the law of profit and quantity production overcame the traditions of their crafts. Undoubtedly the Guilds had other defects quite apart from the capitalistic principle upon which they rested, but their organization and methods are well worth studying. If followed again today and coupled up with a system of administration such as that of which the National Guilds of England have given us the skeleton, our industrial system might be restored to a permanently healthy condition—one which would leave every member of it far happier than he can possibly find himself in the present struggle.

These conclusions, which I confess to be nothing more than personal, set up many trains of thought, one of which leads backwards to the words of Wendell Phillips, spoken sixty years ago: "I confess that the only fear I have in regard to republican institutions is whether, in our day, any adequate remedy will be found for this widening flood of the power of incorporated wealth."

To seek truth one must search without fear and without prejudice, for it is only by divesting the mind of these manacles that it can function to any advantage. It is in such a manner that we ought to study not only the Guilds but our own system of modern industry, of which architecture is an inseparable part and in the fate of which its future is bound up.—C. H. W.

Post-War Committee—The Inter-Professional Conference

The Executive Council of the Post-War Committee has taken steps toward carrying out one of the items recommended in its preliminary conclusions, as reported in the September Journal, and a meeting will be held in Detroit on Friday morning, November 28, at the Statler Hotel. The meeting will be known as the Inter-Professional Conference, and its object will be to consider whether it is possible and desirable to attempt the establishment of a permanent body to be known as the League of Professions (or by another name if one more preferable is suggested), the purpose of which body will be to study the whole question of the professional relation in all callings with a view to suggesting ways and means of improving it and of making it a more effective instrument for the common welfare.

The subject is far too comprehensive to be dealt with at a brief conference, or even as a problem by itself. Consideration of professional relationships involves an analysis of the whole structure of our social and economic system, and never in the history of man was such an analysis so urgently needed. Thus it would seem that, as every profession has a particular contribution to make in such

a work, since it is of necessity more familiar with its own experience, the merger of such experiences would do more than any other possible thing, at this moment, toward putting science at the service of the world in its hour of greatest need. The Industrial Conference in Washington did not even approach the problem before it in a scientific manner, and only an impartial scientific investigation can ever afford us an answer to the problems with which they were to deal.

The program for the Inter-Professional Conference is not announced definitely, as the Journal goes to press, but a full report of its discussions will appear in the next issue. The Executive Council has been able to enlist the generous services of the following men, in the formation, with the members of the Council, of an Organization Committee:

Dr. Felix Adler, Rector, Ethical Culture School, New York City; Dr. Chas. A. Beard, Head of Bureau of Municipal Research, New York City; Charles A. Boston, New York County Lawyers' Association, New York City; Henry W. Hodge, Consulting Engineer, New York City; Thomas R. Kimball, President American Institute of Architects, Omaha; Dr. Alex. Lambert, President American

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Medical Association, New York City; Arthur D. Little, A. D. Little, Inc., Chemists, Cambridge; Basil M. Manly, Director Scripps Economic Bureau, Washington; Dr. George A. McKean, President Wayne County Medical Association, Detroit; E. J. Mehren, Editor, *Engineering News-Record*, New York City; Calvin W. Rice, Secretary American Society of Mechanical Engineers, New York City; Frank A. Waugh, Division of Horticulture, Massachusetts College of Agriculture, Amherst.

The scheme of subcommittees, as considered by the Executive Council, is now being put into effect and will comprise the following: Coöperation with Related Interests; Education; Professions; Public Service; Registration; State Societies; Improvement and Extension of Service; Local Problems.

The chairman of the Subcommittee on Education is Mr. F. L. Ackerman; of the Subcommittee on Coöpera-

tion with Related Interests, Mr. E. J. Russell. Other chairmen will be announced next month.

In addition to this division of work, the Executive Council is busy securing membership representations from states where there was none, and also in enlarging the Post-War Committee by inviting non-Institute men to participate in the work.

The following changes in committee personnel have occurred: Mr. Drach, of Cincinnati succeeds Mr. Fehheimer, resigned; Mr. Jacobberger, of Portland, succeeds Mr. Johnson, resigned; Mr. Clark, of Washington, D. C., succeeds Mr. Wood, resigned; Mr. Norton, of Los Angeles, succeeds Mr. Martin, resigned.

The Executive Council has been enlarged to include Mr. F. L. Ackerman, of New York City, and Mr. C. H. Whitaker, of Washington, D. C. Mr. Henry K. Holsman, 175 West Jackson Boulevard, Chicago, is now secretary of the committee.

British Housing Notes

The new Housing Act for England has raised many interesting questions. It was originally designed to apply to municipalities only, but during its passage it was amended to include what are known in England as Public Utility Societies. In general, these bodies are organized to render a public service, and they have done much in housing. Under the new bill, they may receive grants of money from municipalities, as loans, and a housing project carried out by a Public Utility Society, in accordance with the terms of the bill, would enjoy the same method of State financial assistance, in the form of the subsidy already described in these pages. The dividends of such a society are, however, limited to 6 per cent.

Now the question arises, in view of the intolerable shortage of houses in England, of extending the privileges of the bill to speculative builders! The following is clipped from the *London Daily News*:

"With a view to a quicker solution of the housing problem, Hornsey Town Council have suggested to the London Housing Board that estate owners and builders should be afforded the same financial facilities as the Public Utility societies which have been promised State aid.

"Acting on this suggestion, the Director-General of Housing intends shortly to call a meeting of builders in the Greater London area to consider the question. Many boroughs like Hornsey have been almost entirely developed by the speculative builder, and it is suggested that if he is financed the erection of small houses will be greatly accelerated.

Health Ministry's Delay

"Meanwhile, the question of the wooden house continues to be eagerly discussed. The attitude of the Ministry of Health in insisting that the sample wooden dwelling which it is proposed to import from British Columbia and set up for public inspection in a London park, should be built to their own specification, is likely to cause consider-

able delay. When the Ministry have produced the plans they will have to be sent to British Columbia—a delay of at least a month. Various alterations will then have to be made in the Canadian plant, which is designed to produce thousands of standardised dwellings, and it is unlikely that the sample house will reach this side in less than three or four months.

"The suggestion made to the Ministry by Mr. F. W. Wade, Agent-General for British Columbia, was that the standard dwelling best suited for British requirements should be ordered by cable and brought over at once. But the Ministry officials insisted that their own specification should be followed, and laid particular stress on the inclusion of a larder. It was pointed out that the standard houses were all fitted with a large pantry, but the Ministry declined to accept a design which has been found satisfactory all over the American Continent, and insisted on various trivial changes being made.

Order for 500 Wood Houses

"Mr. Wade hopes, however, to be able to arrange for some standard dwellings to be brought across quickly, and he is confident that the English people will accept them without alteration.

"That many of the public share Mr. Wade's opinion seems to be clear from the number of inquiries received from firms who are already arranging to import hundreds of standard 'mill cut' houses. One firm has received a single order for 500, as well as many others for smaller numbers.

"It is estimated that it would be possible to sell a 5-roomed standard cottage on this side for £250, and that it could be erected and fitted complete for another £100. This is about £100 below the price of an English wooden dwelling of the bungalow type with similar accommodation; £200 cheaper than the least expensive concrete cottage; and some £500 cheaper than a brick cottage.

BRITISH HOUSING NOTES

By-Law-Ridden Country

"In a letter to *The Daily News*, Mr. Gordon Allen, F.R.I.B.A., says: 'Every architect and builder knows that one of the main reasons why rural England now finds itself houseless is because such districts are by-law-ridden. The regulations in force were drawn up half a century ago for governing building procedure in crowded town areas. When applied to the open countryside, these become vexatious incongruities. Some plans of mine for a brick cottage were rejected this month on account of the rooms being 8 feet high, as recommended by the Ministry of Health!'

"'You have well pointed out the possibilities of wooden houses. But in the past the ridiculous by-laws have prevented the erection of such dwellings—and also those constructed of the latest materials—even though the site be miles from nowhere. In this country, especially outside stone-yielding districts, thousands of wooden buildings are still in good repair, after having been in existence for centuries. Where houses are detached, the danger of fire spreading is inconsiderable. And in the case of wooden bungalows, the risk from fire applies only to property, not to life, for if the door gets blocked, escape by window is easy and safe.'

Another View

"'To one who has lived many years in the United States,' writes another correspondent, 'the advocate of the wooden home for English families appears somewhat foolish. Surely the Englishman can build the house in which he lives. The very latest thing in laziness and apathy is shown by these suggestions. Offer the American his choice of wood or bricks, and just watch him grab at bricks. Ask people who have lived in the land of wooden houses, and watched whole blocks of business premises swept away by fire in a single night. If we must build wooden houses, at least 100 feet of space should be allowed between each. The American is used to wooden houses; the English are not.'

The National Financial Burden

The financial burden to be forced upon the country by a short-sighted effort at palliation, where a long-sighted policy, based on a permanent solution ought to have been adopted, may be surmised from the following items in the English press:

Housing Scheme Rejected

"After six hours' debate the Nottingham City Council reversed its previous decision to proceed with two instalments of the £2,000,000 garden city housing scheme, and rejected the entire proposal. An invitation was extended to the Housing Committee alternatively to prepare a new proposal for tenement dwellings. The original scheme was agreed to a fortnight ago by the council, but, owing to the excessive cost a requisition was made by six members for a special meeting which resulted as stated. Alderman Huntsman declared that each house let at £25 would cost the ratepayers or taxpayers £50 annually, or a quarter million a year."

Rents of New Houses—Normal Level Expected to be Reached in 1927

"The Housing Act and the policy of the Ministry of Health on the question were explained to the London sanitary inspectors and health visitors at the Caxton Hall, Westminster, last night by Mr. J. G. Gibbon, Assistant Secretary at the Ministry of Health, and Capt. B. S. Townroe.

"On the question of rents of the new houses Capt. Townroe said that these would be based upon a post-war level of profits in the building trades. It was assumed that the normal level of prices would be reached in 1927, and that it would then be two-thirds of the present figure."

Houses and Wages

Under the above title, Sir Leo Chiozza Money contributes the following interesting article to the *London Daily News*:

"It is, of course, a delusion that high wages necessarily mean dear goods. The fact that British motor-car makers, who pay much lower wages than the American motor-car makers, are howling at the importation of cheap American motor-cars made by very highly paid labour, is only one of many current illustrations that might be given of the falsity of the argument that as wages advance prices must advance.

"One of the great advantages to a nation of an advance in wage-rates is the fact that it compels the adoption of a superior economy. As long as labour is cheap it is lavished in a wasteful way upon uneconomic operations, as we have witnessed in the past in the case of domestic work, nothing in the world being so cheap as a cheap girl. As long as a girl is content to slave all day for a meagre pittance and a bit of an attic to sleep in, you will not get much in the way of household economy.

"And that brings me to the effect of higher wages in the building trades, and in the making of homes. We are not used to high wages in this country, and there is considerable danger that in the case of the housing problem all sorts of hasty devices will be resorted to through a mistaken notion of the word 'economy.' The danger is increased by the current erroneous belief that we are 'ruined' or 'near ruin,' which is being propagated most ruinously. I rarely take up a paper now without finding myself, as a citizen, advised to join with others in spoiling the ship for a ha'porth of tar.

Labour and Building

"The relation of wages to house-building should be thoroughly understood. As long as house-building consists of the old operations of piling *in situ* brick on brick and timber on timber, each operation calling for the application of great quantities of labour power, the cost of building must be heavy whatever wages are paid, and very heavy indeed if good wages are paid. There is no royal road in such operations as bricklaying, or tiling, or painting, if a man is to take tool or brush and well and truly apply himself to materials. Bricklaying is beautiful and fascinating work, but it is necessarily laborious. Equally it is slow and costly to build a partition of timber and lath and plaster. At present wage rates, even with fairly cheap

The Cottage

material, it must be costly to apply much good work to the making of a house.

"These considerations coming home in a concrete form in estimates, we witness wild attempts to obtain cheapness by the building of houses which evade, or attempt to evade, labour costs. The thing would be excellent if it were accompanied by proper thought and skill and first-class architectural science. The imminent danger is that men in a hurry will construct in the name of houses ugly and uncomfortable boxes which will remain with us as monuments of human folly.

Houses—Inside and Outside

"The inside of a house is a private affair which concerns the comfort and health of the inmates. The outside of a house, however, is, fortunately or unfortunately, a public matter. It is the ugly outsides of houses, warehouses, and shops which make our ugly cities. The aspect of a city is merely the mass of so many exteriors, each of them a private possession, but the whole forming a great public and ineradicable nuisance. Houses are lasting things even if indifferently built, and this is the explanation of the horrors of the housing problem. Clothes rapidly wear out and have to be renewed. Houses last on, long after they are obsolete and no matter how wantonly they outrage the public eye.

"If we have been given so much ugliness by brickwork, what pictorial terrors we may expect from the facilities of concrete! Concrete is one of the obvious ways of reducing the labour bill. Portland cement is one of the finest servants of men that has ever been invented, but although it is a good servant it is a bad master. Unfortunately, many of those who are tackling the material in connection with housing do not know how to use it. It lends itself to the making of ugly boxes, and so ugly boxes are made. It lends itself, again, to the plastering on ugly boxes of even uglier 'ornaments' of the pastry-cook order. And when the thing is done the material is so good that you have a building capable of resisting weather and ill-use—so indestructible in character as to be a permanent blot upon some unfortunate landscape. Not that it need be so. An artist, as an architect ought to be, is quite capable of tackling concrete in such fashion as to give a beautiful result. Some cottages I saw last year at the National Shipyards in the West, although not above reproach, were far more beautiful, although made of cheap concrete blocks, than the majority of brick cottages.

"The moral in this connection is that the Ministry of Health and local authorities ought to insist upon artistic work. The many virtues of concrete construction, its cheapness, the readiness with which one can get hollow walls, the simple construction of partition walls, flues, staircases, and so both should make it possible, with the stamping out of profiteering in materials, to make small houses with well-paid labour at very much the same price as the old-time house made with cheaply paid labour. What we have to do is to get the best out of concrete while avoiding like a pestilence the uglification of town and country."

Across the road from my window lies a triangular plot of ground, once the site of a cottage and garden. Now only a shapeless mound or two remains to show where the cottage stood, and the garden has been plowed up and sown with grass. The plot serves as a handy corner to turn young calves into in the early summer. For our present purpose it may also serve as a sort of epitome of the rural housing problem.

The first cottager was a land-worker, and he spent his days on the farm on which his cottage stood. In the two rooms which was all his home he brought up a family of eight, and when he died his eldest son took possession of the cottage and of his father's place on the farm. In the course of years a fresh family gathered about the hearth.

But times changed, and the son was not blessed with the spirit of contentment which had sustained his father. Wants multiplied, but wages remained stationary. The farm laborer contrasted his own position with that of some of his younger brothers who were making good money in the coal-mines. At last one winter he too went off to the "works," to return in the spring with a pocketful of gold and a new suit. The links that bound him to the land were now broken. For many seasons the winter migration went on, and the cottager only returned at haytime and harvest to work off his rent and pay for his potato ground and his wife's daily dole of milk. Finally he found it better to take a house at the "works" and take his family away, so that the cottage and the farm knew him no more.

The third and last tenant was an aged woman in receipt of parish relief. She, poor soul, could do little to maintain the place in proper condition. When she at last died and was buried by the parish the process of decay had already gone far.

No other tenant could be found, and time and the weather had their will on the old cottage. A storm blew the thatch away, rain soaked through the walls of earth, and bit by bit they fell to the ground. Soon only part of the end walls were standing, and then the farmer entered and began to cart away the stones to sell to the Local Authority for road-making. The straw and earth were left in a confused heap through which fragments of broken beams protruded, only to be hidden in the course of a season with a thick growth of nettle and dock. The farmer spanned the gaps in the garden wall with barbed wire, and now his calves are turned in here for their first taste of the spring grass.

Reconstruction is the work of the immediate future. Will it take in hand the ruined cottage of the countryside? Can the cottages be rebuilt upon the ruins and the country made worth while for a man who has a young family to think of? The farmer would like to have the married laborer back again, for he obtained better service from him than from young lads who never intend to settle upon the land. But he cannot possibly build cottages for his workmen under present conditions. The work must be undertaken by the Local Authority with the help of the State.—T. G. J., in the *Daily News* (London).

Book Reviews

Old New England Doorways. By ALBERT G. ROBINSON, New York City. 1919. Charles Scribner's Sons.

If there has been published an architectural book more nicely balanced and more simple and straightforward in its presentation of an element of architecture, I do not remember to have seen it. The author is modest and unassuming, which is rare; more than that, in his brief text, he delivers himself of no profound opinions and claims no great discoveries, and these absences are also far too rare.

He talks about doorways and about the reasons why they were built as they were, all up and down the Atlantic Coast, but the talk is that of a scholar and not that of a pedant. To him the technicalities are less important than the joy of the doorway itself, as one comes upon it in places unsuspected by the traveler who, today, has no time to lose. To search for doorways, one must like to lose time, and count it well lost when a doorway is found. For, says Mr. Robinson, "The pleasure of hunting for old doorways in New England lies almost as much in the search as in the discovery." These are the words of a philosopher, and there is no more delightful company in which to go on a journey of any kind.

The plates are philosophic, too, for they only suggest details. They have evidently been studied, in their presentation, with the hope of telling a story and not with the idea of establishing a historical document. As stories are always more interesting than histories, so these photographs of doorways are far more interesting, to me, than a thousand historical documents of either pen or pencil, for they tell stories—not one but many—and they are the stories of little streams of life flowing in and out of houses. The stories of that slow revolt, in New England, against the severity and the austerity of the plain square door openings of the early settlers. They seem to reveal the slow blooming of a plant that had been chilled almost unto death by the stern struggle in a new land, and yet which responded with alacrity to the rays of a sun that finally broke through and warmed the blood in its veins. It is the old story of life, denied its natural food of beauty, and wishing for a garland in which to clothe the entrance door of the too forbidding habitation.

Some were frankly gay, while others responded timidly. It took courage to be gay, in those days, and there are doorways in Mr. Robinson's book out of which one may conjure up all the misgivings that no doubt beset their owners, ere the carpenter was bidden to the task. For, as Mr. Robinson also points out, one can seldom be sure that the doorway dates back to the building of the house itself. Many were added, as the fashion grew, and as timidity responded to the sound of laughter, the music of which it had hardly heard for a century; for life was a stern thing, in the New World, for many a day.

For one, I owe a debt of gratitude to Mr. Robinson, and do publicly say so.—B.

Handbook of Furniture Styles. By WALTER A. DYER. Century Company.

Interior Decoration for the Small House. By AMY L. ROLFE, M.A. Macmillan.

When the world so needs simplification, it seems unnecessary to have thrust upon it one extra thing, yet that is what Mr. Dyer's "Handbook of Furniture Styles" is,—one extra thing. I defy anyone to read the book as a book, and the assertion that it meets "a genuine and particular need" by "its practical usefulness" is mere imagination. After reading the book twice, carefully, I still find the subject confusing. Not that it is not written in an orderly manner, but to make such a book useful, the most intense, even profound, study should be made of the method of presentation. The subject matter itself, as far as it goes, is, in the main, accurate and historically correct, but I fear that after, as well as before, reading this book, good American dollars will be spent for trash, the prevention of which Mr. Dyer sets forth as one of his aims. The book is an outline of the historical sequence of the various styles of furniture rather than a handbook of those styles themselves. Incidentally, why does Mr. Dyer call the book "A Handbook of Furniture Styles?" Does he consider the word "furniture" an adjective, as he obviously considers, the word "art?" Such a title and such usage as "art world," and "art industries," and "art impulses" and "art tradition" are prejudicial to the book. Yet, Mr. Dyer is equipped to make a book which would be what he imagines this one is, but in it he must set forth, not lists of woods used, of decorative designs, of cabinet-makers and of the details of styles of the different periods; not loose, vague sentences describing styles, but the very essentials of those styles, so illustrated with cuts and the simplest outline drawings that the forms developing into styles, the salient features of those styles themselves, and the modifications leading both to and from the styles in the transition periods, are clear and present to the mind and eye of the student. Without such a simplified presentation, with drawings, the book must leave the mind of any but an expert in a state of confusion worse confounded. For instance, Mr. Dyer first mentions a cabriole leg on page 51, but never illustrates it until page 113, leaving the amateur all this time in ignorance not even lightened by the dictionary. And to say that "the styles of the Louis XIV period gradually merged into those of Louis XV through the medium of the Regency," without clear-cut definitions and illustrations, is as slipshod a device as that of the novelist who says his characters are witty but fails to make them so. And furthermore, when he publishes what he calls an example of a Louis XVI room with a sofa in it that never was a "Quinze" or "Seize," on land or sea, one can but feel that this book is neither a useful nor safe guide for the modern American purchaser, and this is a pity, for no one could better write such a book than Mr. Dyer if he would take his subject seriously and replace meaningless

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generalities by definite examples arranged in a scholarly manner.

Miss Rolfe makes a distinction between the word home and house, implying an inherent spiritual and intimate meaning in "home" which is not in "house," hence her choice of title. Her differentiation is true but for that very reason her title misleading. It is the *house*, "the sheltered abode for human habitation" which she is decorating, and furnishing, in such a manner that it will be a *home*. Inevitable pitfalls lie ahead of whoever, with these particular distinctions in mind, substitutes the word "home" for "house," and into these Miss Rolfe has fallen as quickly as any one. A pretentious house may still be a "home," but "a pretentious home" is a self-destroying term, as is also "an expensively constructed home." Let us start clear, then; it is the house, the physical structure with which we are dealing, and within which we hope to create a "home."

Miss Rolfe has, more or less well, accomplished a task of great difficulty; that of writing a textbook for people of small means who wish to be their own interior decorators. It is well done in that the book is written in a direct style which makes clear the fundamental principles that must be understood and followed in order to furnish and decorate houses and rooms, if they are to be simple, harmonious and livable. Her emphasis upon essentials, upon the treatment of walls, floors, and hangings, as backgrounds, and upon the placing of furniture and the hanging of pictures with balance and symmetry is excellent, although in attempting to give more specific directions as to the use of special pictures and objects for special rooms she is on dangerous ground, for the subtle use of Japanese prints, of samplers and of busts cannot be taught, but must be the spontaneous expression of the individual. The book is simple in aim and method, and in this is of great value; but it is less well done in that she has failed to show and illustrate the difference between good and poor furniture and furnishings. This is a difficult task, but a chapter devoted to the study of the beautiful old models, with illustrations showing in what particulars the forms have become debased in the hands of the modern machine-using manufacturer, could have done much to teach the house furnisher to see the beautiful in the old, and demand it in the new. This lack, together with her assertion, which is in no way true, except in the case of the most expensive, that "the period furniture which is turned out of our factories today is in every way as beautiful as the rare old pieces of our forefathers," does actual harm, for it is neither a sincere nor truthful analysis of the situation as it is. This, with her commendation of craftsman and modern mission furniture, is confusing and misleading on the very subject which most needs clarifying for the amateur. However, the book, on the whole, is a success.—H. C. M.

Walled Towns. By RALPH ADAMS CRAM. Marshall Jones Co.

This is the fourth of a series of books written by Mr. Cram during the war. He assumes that those who pick up this last volume will have read the preceding three. In case his readers should not agree with the reasoning set forth in these other works, Mr. Cram gives the following kindly warning: "To those who dissent from these opin-

ions this volume will contain nothing, and they will be well advised if they pursue it no further."

In disagreement, as I am, with certain of Mr. Cram's reasonings, I ignored the kindly warning, and I urgently advise all others to ignore it, because "Walled Towns" is too good a book not to be read. Naturally, the disagreement which exists also prevents me from subscribing to what Mr. Cram calls "the way out;" but at a time when ways out are being sought with feverish intensity, it were wise to ignore none of them. Certainly, Mr. Cram supposes a way that seems thoroughly pleasing and agreeable up to a certain point. Not even Mr. Veblen or Mr. Shaw could blow a finer blast of withering scorn than Mr. Cram blows upon the present state of capitalistic society. He attacks it point blank, with all the weapons that come handy. Sometimes he even deserts the rapier, in the use of which he is so skilled, and arms himself frankly with the bludgeon. The truth is, of course, that more and more writers and more and more men have seen, and are seeing, and will continue to see in ever-increasing clearness, the impossibility of much longer continuing a state of society such as this. Grave men gravely discuss revolution. The whole social and industrial fabric is known to be crumbling and rocking. Never has so high a fever racked the souls of so many men; but the way out is still too much dreaded and too much feared. It involves renunciation, sacrifice, and the supplanting of hatred, as a world doctrine, with love. One may simplify it still further and say that we only need to be rid of selfishness, but it is against the rock of selfish interests that all plans recoil in dismay.

In "Walled Towns" Mr. Cram presupposes the return, very largely, to medievalism. Not all the machinery of the world is to be scrapped, but a great deal of it. On the other hand, much that man has not yet learned is to be a part of the walled town. For example, private ownership of land will not exist. The needed town revenue is to be raised almost entirely by the rent of the land which is owned by the town. This is one of the most significant aspects of the program, for by one swift leap we are to be emancipated from the unutterable misery, tragedy, and injustice which has everywhere followed private ownership of land. And even a dreamer like Mr. Cram has come to see, although, curiously enough, he ignores the history of land tenure as a prime cause, that no decent order of society can ever be possible as long as the surface of the earth can be used as an instrument of monopoly and oppression. Basically, the walled town of Beaulieu, which is to lie "about forty miles from one of the largest cities in New England," is to begin its life free of the chains and fetters which man for countless centuries has dragged wearily and painfully from land to land, from city to country, from country to city, never to achieve land freedom, without which there is no other freedom.

But then what is to happen? Having gained the basis for freedom man is at once to give up the freedom he has gained. At Beaulieu, "A bailiff and council of three sit here in a fine stone-vaulted room opening off the great gate, for three hours each morning, to issue their licenses or prohibitions. Here also are the town telephones and telegraphs, for while these as well as motor cars are recognized as necessities on emergency occasions, they are held to be 'useless luxuries' as private possessions and are for-

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bidden within the walls." Thus our walled town apparently is to be a compromise between what might perhaps be called communal monachism and society as it is. A selection is to be made of what we shall take from the present and what we shall take from the past.

In reading Mr. Cram's enthusiastic picture of the life that might thus be gained in a walled town, one almost succumbs to the picture and is ready to abandon the world and apply at the nearest gate. On the other hand, one is to judge, it appears, that each walled town is to be under the specific religious authority of a particular sect, and thereby religious doctrinaires must reflect carefully before making application.

Perhaps Mr. Cram is right—perhaps we must throw away the mechanical devilry with which we have enslaved ourselves. Perhaps we must cast on the scrap-heap nearly all the results of invention and frankly admit that the only way to escape being crushed by the structure we have reared is to instantly pull it to pieces, saving only a few minor details. Perhaps it must be so, and yet this presupposes that the mind of man is to come to a halt. Beyond a certain barrier it must not go. The question then seems to be this: Is it possible for man to create inventions and devices for the saving of labor without destroying himself? In Beaulieu steam is not to be admitted and electricity, hydraulically generated, is to furnish the motive power for industry; but we are left to believe, after all, that hand-labor will reign supreme. This means, happily, that much of what is in reality useless today will no longer be made and sold. Instead of manufacturing the flimsy and the tawdry in vast quantities, with a vast overhead expenditure involved in selling them and a vast overhead waste involved in using them,—because they are hardly bought before they must be replaced with more of the flimsy and tawdry,—men will again resume the making of sound things, things that are durable and beautiful and that give pleasure in the making and pleasure in the using. Against this beautiful picture we must reckon with the mind of man, which, I opine, will never be denied its right to explore all the mysteries of the universe, no matter where they may be hid. And those who so believe will probably elect to continue their search for a plan by which the secrets so wrung from nature's recesses shall be placed at the service of mankind, not for profit but for use and enjoyment. The great structure of science and invention, instead of being our master shall be our slave. Can we find a way out in this direction, or must we consign ourselves to the walled town, where "no man is a free burgess unless he is a land-holder, and the minimum is garden land sufficient to supply all the needs of his family that can be satisfied from this source; the maximum is that amount of farm land that he can maintain at a minimum standard of productivity," where, "every family also keeps as many cows and poultry as will furnish the normal requirements in the shape of dairy products, eggs, and fowl for eating." Where "the farms, which lie outside the walls and quite surround the town, do more than this, and much produce finds its way to the communal dairy, which is used for the production of better and cheese for the townspeople, and also for sale outside the walls?"

It is a wise man who can answer this question.

Mr. Cram goes on to deal with the problems of industry

and the organization of the crafts, of education, of civic functions, and the arts, by painting a fascinating picture of what life might be if it were free from the damnable influences of competitive industry and the selfish impulse.

"All society is organized under the guild system, and every man must be a registered member of one guild or another. The guild of the farmers is the largest, and usually it is to this that those citizens belong who are officials or professional men. Then there are guilds of metal-workers of all kinds, cloth-makers, builders, artists, etc. . . . In the Walled Town the division between capital and labor does not and cannot exist. Since production is for use, not profit, since competition is impossible under the guild system, and since no advertising is permitted beyond a signboard (and they are sometimes most notable works of art, these painted and gilded and carven signs), exploitation, whether of labor or markets, is unknown. One of the fundamental points in the town charters is the definite prohibition of the 'unearned increment.' Money may not be taken or paid for the use of money except within each guild, and here only under what are practically emergency conditions, the rate of interest never exceeding three per cent. Every guild has its own fund, made up from dues, bequests, and a percentage of profits on the sale by the guild of such surplus products as may be handed over to its officers for disposal; but this fund cannot be invested at interest outside the walls nor in any portion available for other than guild members, except that the town may use it for current expenses in anticipation of the regular land-taxes (or rent), paying three per cent therefor, and returning it within the space of a year. The system is practically a restoration of the guild system of the Middle Ages, and anyone may find for himself further details by referring to the many books on the subject, e. g. those of William Morris, Arthur Penty, and Prince Kropotkin. It is the precise antithesis of collectivism, socialism and trades-unionism of whatever form. . . ."

In Beaulieu there is "no hard line of demarcation between a drab and sordid hustling daily life on the one hand, and 'amusement' on the other. All the arts are in constant use, and music and drama are merely extensions of this common use into slightly different fields. The same holds good of the other arts. An 'art museum' is unknown, for it is a contradiction in terms. The Walled Town is full of pictures and sculpture and all the products of the art-crafts; but the latter are in every household, while the pictures and sculptures are in all the churches and public buildings, where they belong, and are constantly and universally visible. There are museums of sorts, but they are connected with the guild halls and contain only models for instruction and emulation."

Personally, the absence of art museums almost makes me an immediate candidate for a walled town, and yet, I fear that, like many another, I am condemned to the sorrowful destiny of believing that the mind of man is ordained for infinite conquests, in body as in spirit, and that the way out is to come not from abandonment of the world, but from a dedication whereby we shall live, not by the selfish motive, as now, but by the unselfish one, with freedom still having absolute play. But "Walled Towns" is well worth the reading—although I think that "News from Nowhere" is still the more seductive. C. H. W.

News Notes

Next Meeting of the Board of Directors

A meeting of the Board of Directors will be held in New York City on November 11 and 12 next.

The New State Board of Architects for Washington

It is announced that the new State Board of Architects for the state of Washington is as follows: Louis Baeder, Chairman; A. J. Russell, Secretary-Treasurer, and A. Warren Gould. December 11, 1919, is set as the last day on which those practising at the time the act was passed (June 11, 1919) may register without examination.

The Institute's Reply to the Message from the Royal Institute of British Architects

JOHN W. SIMPSON, F.R.I.B.A.

President Royal Institute of British Architects.

Dear Mr. Simpson—

The American Institute of Architects, through the Executive Committee of the Board of Directors, acknowledges with deepest appreciation the message of greeting and congratulation contained in your cablegram, and trusts that a closer and a deeper sympathy may in future bind together the architects of our several countries—one of the profound benisons that shall justify the war and its cost, and to which we, in our full acceptance of the final justice of all things, confidently look forward.

In the delay of this response is voiced the desire to have it shared in by the Executive Committee of the Board of Directors, whose recent action this note records.

Believe me, my dear Confrère, most sincerely yours,

THOMAS ROGERS KIMBALL, *President*
American Institute of Architects.

City Planning in France

The new French law on city planning is compulsory in character and obliges every city of 10,000 inhabitants or more, every department of the Seine, and all cities of more than 5,000 or less than 10,000, whose population has increased by at least 10 per cent within the period of any two five-year censuses, to prepare and have in force a city planning law within three years from the date of the passage of the national law, which was in March, 1919.

The law provides fairly specifically for the physical structure of new areas, including those in the devastated area, provides for a commission for each department, with a superior commission sitting in the Ministry of the Interior. Apparently, in the case of the devastated areas, the Minister of the Liberated Regions will have jurisdiction. Provision is made for the failure of the city to act, and for the joint interest of two or more communes or departments in any given project affecting areas involved under two or more jurisdictions. It is hoped later to publish a complete analysis of this bill.

Award of Institute Medal

The Institute Medal for Students has been awarded to Arthur Edward Middlehurst, of the School of Architecture of Cornell University.

Washington State Chapter Adopts New Schedule of Dues

At its meeting on October 3, the Washington State Chapter amended its By-Laws as follows: "The Annual Dues to the Chapter for Members* shall be Fifteen Dollars; for Associates, Twenty Dollars; and for Chapter Members, Twenty Dollars. Any Member, Associate, or Chapter Member who has both his residence and his place of business at a greater distance than twenty miles from the City Hall in Seattle, shall pay one-half of the dues above described. Honorary Chapter Members and Corresponding Chapter Members shall pay no dues."

*It is assumed that this refers to members of the Institute.—*Editor.*

Annual Report of the American Academy in Rome

In spite of the war, twelve students pursued their work at the school, although the buildings, in some cases, were placed at the service of the Italian government, while members of the faculty were likewise engaged in war work. Volume II of the Memoirs of the Academy has been published (shortly to be reviewed in the Journal), while the endowment fund was increased by the sum of about \$60,000, making a total of \$991,000.

The question of restoring the competitions for admission in architecture, which were suspended because of the war, has not yet been determined.

The report records the interesting fact that Belgium, even in the midst of her struggle, was taking steps to inquire about the Academy, very evidently because the establishment of a Belgian academy is under consideration. Among the deaths recorded, the name of Frank Miles Day finds a place, and the Trustees of the Academy express their deep appreciation of long and valued services during the difficult process of forming the policy of the Academy.

Zoning

The Washington State Chapter has resolved to request the creation of a city plan commission for the city of Seattle, and to ask that the first work of such a commission be to prepare a practical zoning plan for the protection of the industries, business, and homes of Seattle.

In the city of Washington, D. C., the Zoning Bill still hangs fire in Congress. Hearings have been held and the bill, having passed the House of Representatives, is now before the Senate.

At the October meeting of the Illinois Chapter, a report on the subject of zoning was submitted by a subcommittee of the Chapter's Committee on Town Planning. The

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members of the subcommittee are Messrs. A. B. Pond, Martin A. Roshe, Richard E. Schmidt, and Howard Shaw. The report was in the nature of an introduction and a resolution, and after it had been thoroughly discussed, the following resolutions were unanimously adopted:

BE IT RESOLVED by the Illinois Chapter of the American Institute of Architects, That the City of Chicago should at once proceed to create a comprehensive "zoning plan" and to that end should appoint a commission of not less than fifteen citizens who shall serve without pay and who, while representing the entire community interest, shall be largely drawn from those groups and organizations that have been brought in direct contact with the technical questions involved and who are by virtue of their callings and professions best informed on the subject matter that will particularly engage the commission's attention, and who shall:

(a) Engage the services of the best obtainable staff of city planners, social experts, engineers, architects, and draftsmen at the expense of the city.

(b) Make a comprehensive survey of the entire city and plat all the facts that are likely to bear upon the proper solution of the best possible plan or that will tend to support it in the event it is brought before the courts.

(c) Make a tentative "zoning plan" of the entire city in reference to the use, height, and area of buildings or other structures that may be built, with a view to the functioning and growth of the city with reference to the health, safety, comfort, and general welfare of its citizens.

(d) Submit the tentative plan to the citizens and various civic organizations and interests for criticism and approval.

(e) Recommend to the Council an ordinance, which having been adopted by the Council, will result in an official authoritative "zoning" or districting plan for the entire city in the interest of the health, safety, comfort, and general welfare of all its citizens without discrimination; and

Resolved, That we tender the services of the Illinois Chapter, and the records and archives of the American Institute of Architects to the city authorities, in the interest of the best impartial solution of the problem; and

Resolved, That a copy of this document be sent to the special committee created by the City Council to advise it as to procedure under the permissive statute, and also to the Mayor, to the members of the City Council, and to the officers of such civic bodies as may be presumed to be interested in the subject of a "zoning plan" for Chicago.

Errata

In the August issue of the Journal, the article on the Post-War Committee contained a quotation, under the heading "Coöperation with Other Professions" accredited to W. S. Maxwell. This should have been accredited to J. Rawson Gardiner.

Obituary

William Sydney Wicks

Elected to the Institute in 1884; to Fellowship in 1889

Died at Barneveld, New York, May 30, 1919

William Sydney Wicks was born at Trenton, Oneida County, now Barneveld, N. Y., on July 27, 1854. He received his early schooling at Lowville Academy, later going to Cornell University and the Massachusetts Institute of Technology.

Upon the completion of his college work, he studied in the offices of several leading architects. In 1880 a partnership was formed with Edward B. Green, and offices were opened in Auburn. After several years, the firm moved to Buffalo, where for more than thirty years they carried on their work. Many of Buffalo's prominent buildings were designed by them and they did extensive work in other cities, both in public as well as in private work. Among the out-of-town projects, the development of the New York State Fair Grounds, the new buildings of the Agricultural College at Cornell University, the Toledo Museum of Art, and the Ontario Power Co., at Niagara Falls, brought special distinction. Among the more notable buildings in Buffalo are the Chamber of Commerce, Fidelity Bank Building, Marine Bank Building, Buffalo Savings Bank,

D. S. Morgan Building, South Park High School, the new Buffalo City Hospital, and the Albright Art Gallery. A plan for the development of a civic center for Buffalo won considerable distinction in connection with city planning work. It was upon a further study of this problem that Mr. Wicks was engaged at the time of his death.

Mr. Wicks' country home at Barneveld, known as "Rubble Manor," is one of the historic houses of the state, having been built in 1804 by Colonel Mappa, the agent for the Holland Land Co. The detail of its interior woodwork, which is in almost perfect preservation, is a noted example of early Georgian work.

Mr. Wicks enjoyed out-of-door life, and had a wide variety of interests. He was at one time the amateur golf champion of Buffalo, always an enthusiastic fisherman and hunter, and a lover of the woods. Recently he had found much enjoyment in his farms and the scientific propagation of brook trout, which he raised on his preserve in the foothills of the Adirondacks. He was a charter member of the Adirondack League Club, and had identified himself closely with it during the past thirty years.

Among his fellow architects and business acquaintances, he was held in great esteem, and his record of high professional integrity and achievement is one that will long endure to the credit of his profession.

General Index to Structural Service Department

Light-face numerals refer to information published in the Journal during 1920. Black-face serials refer to the Structural Service Book, Volume I, a copy of which is in the possession of every architect, engineer, builder, or manufacturer who subscribes to the Journal.

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Shadows and Straws

GROWTH IS THE natural organic law. It governs all life, forever eluding us with the wonder of its constancy. From seed to plant, plant to leaf, leaf to bud, bud to flower, flower to fruit—and then a new seed falls to earth confidently. Within the walls of the tiny seeming sepulcher all has been prepared for the perpetual new life. Nothing has been forgotten. Everywhere is law, serene and simple, working to its destined fruition.

But there is another kind of growth that, strictly speaking, belongs almost wholly within the domain of architecture. We use the word growth perhaps wrongly, because in a strict sense there is no organic growth in a building. There is no organic growth in a class of buildings such as go to make up a town or a city. There is no organic growth in the structure of streets or the structure of sewers or the structure of any of the physical members which go to make a community, and yet we speak of city growth, of communal growth, of civic growth, of country growth. We even refer historically to buildings of past centuries as expressive of the growth of those times. Therefore it is very clear that by some process of transmission the needs of men are transformed into physical things which we speak of as growth.

Running through all this kind of life there must be a fundamental law. Cities and towns are, after all, processes of growth, and unless they grow rightly they will grow wrongly; and we do not yet know of any cities or towns that have found the law by which alone they can continue to live. Looking back over the ages we can scan the record of those that have perished. Even the greatest of them have

succumbed. Nothing but a heap of ruins marks their site in many cases. What was the law which they denied? What was the law which they could not find? What is the law which we have not found, because in some of our modern cities the seeds of death are already plainly visible, and following the death of cities there has come, in the past, the death of nations. Yes, towns, cities, and nations have lived and thrived and perished. We in our day and time can hardly be brought to admit the possibility that our nation could perish; and yet, if it defies the law of communal growth it will perish like the rest.

IS THIS A NECESSARY PROCESS? Are cities governed by the same law that presides over organic life? Must they pass from seed to bloom and thence to what we call death, in order that the process may go on? We well might think so as we study the records, and yet because the process is inextricably involved with human life, and because we cannot resign ourselves to the suffering and misery and unhappiness of men as they are caught in the toils of this process, we struggle to avert it. Manifestly, then, we do not believe that cities and nations are doomed to the inexorable destiny of living organisms, to the mystery of inevitable birth, oblivion, and rebirth. We believe that there are powers inherent in the life of man (the Great War is testimony to our belief), whereby we can control these things. The history of the legislative enactments of nations, during the past century, offers indisputable evidence of our belief in that power applied through the force of law. We have begun vaguely to perceive that all is far

from well with the process of communal growth, here in the United States as elsewhere, and remedy after remedy has been suggested and attempted, but so far with little avail. The answer is that we have not yet seen our problem as a whole. We have only studied parts of it and by a process of attempted detachment and isolation. We have looked at housing, for example, as a thing apart, and thus we are today, as a nation, immersed in the darkest ignorance as to what housing really means. Likewise we have studied the city as a thing apart and have ignored its social relationship to the country. We have permitted the seeds of national death to be planted everywhere, because we could not and would not see our field as a whole. We are still so sure of our mastery that those who dare to discuss these things fundamentally and thereby point out the defects and mistakes which are so apparent, must risk the shafts of ridicule, or even anger, of those who prefer not to know. The penalty of such knowledge would compel thinking, and most people do not wish to be put to the trouble of thinking. Having tried it once or twice they have learned that it involves work of the hardest kind, and generally leads to things that seem to be inimical to the personal material welfare of the thinker. Not to think is very much easier, and avoids all the unpleasantness of being bothered or upset, and yet the time has come when we must summon Thought to our rescue; when we must unshackle and untrammel our minds and be prepared to follow wherever Thought may lead. Otherwise, thinking is only a flower that dies unborn.

TO WHOM SHALL WE TURN for information? I think it must be to the sociologists, to the social analysts. I think we must turn to Ruskin and Carlyle; to Tolstoi and Kropotkin; to Comte and LePlay. They represent a school of thinkers which has for its object the setting up of a new standard of measurements and a new standard of value. They are not concerned with values as expressed in money and property except as these values belong to and are the servants of all people. They on their part have really set men thinking in new terms of value. They have set modern men the task of trying to find a standard of value represented by life-growth as expressed in men and women and children. Roughly speaking, you might say that they put

quality before quantity, because for quantity they really care little or nothing. For quality they care everything, and, somewhere along the road which they have built, we shall some day find the law by which alone communities can grow wisely. When we have found the law I opine that we shall have reached a point in our civilization where quality will be first in importance with us—quality in men, quality in things.

We shall, perhaps, have passed through the great industrial age in which we are now struggling. We must pass through it or out of it, or else we must transform it. The Great Production Machine now has us in its clutches. Its appetite is insatiable. It can never be satisfied. Its clamor for quantity alone is the world's greatest illusion. It began by calling for coal, then for iron, for wood, for cotton, and for every kind of raw material, and we fed those things to it faster and faster; then it cried for men and we gave them; then it cried for women and we gave them; then it cried for children and we gave them too. It is only a few days ago that one of the Japanese who was attending the International Labor Conference at Washington told me that the Japanese Labor Party was determined to secure an eight-hour day. Why? Because an eight-hour day would force Japanese industry to employ labor-saving machinery. At present it finds it cheaper to work children eight years old fourteen hours a day! So you see the industrial machine is not entirely a question of machinery or of smoking chimneys and hideous noise. It is a question of quantity production obtained at the expense of life itself. Somehow or other we shall have to learn to master the Great Production Machine.

IN THE PHILADELPHIA *Public Ledger*, of October 31, I read the following words in an editorial concerning a conference which was then being held in Philadelphia: "It is all very well to discuss the everlasting virtues of Letchworth, England, a very much overrated Garden City. . . ." I should say that it would hardly be possible to reveal a greater ignorance than this in connection with the subject of how cities grow and how cities ought to be planned in the future. But I opine that the writer of this editorial did not mean what he said. He was no doubt tired and impatient after attending an interminable session of an interminable con-

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ference, where men talk round things and not straight at them. But as to the remark in question, I would answer that Letchworth was the most important experiment ever made in the science of community building. I would say that no effort of any kind, anywhere, at any time, along this line, had borne such fruit as you can now find in the legislative enactments of the progressive nations of the world. Unhappily, the fruits of Letchworth are not yet visible in any state in this country, although we have certain permissive laws under which knowledge supplied by the Letchworth experiment might be made applicable to our problems.

What is the Letchworth idea? It has been very much discussed. It probably has been overrated by the enthusiastic and the ignorant. It has undoubtedly suffered from a mistake in the primary plan. Its founders sought to find the law which governs wise community growth? I think they found that law, and the mistakes they made in their plan were wholly natural and are by no means vital. They will be corrected in the next Letchworth, the plans for which are already being drawn. What is the Letchworth idea and why does it exemplify the law of growth in communities? Letchworth is called a "garden city," and that is very rightly an excellent name for it. But the name "garden city" has been bandied about by reformers until it has fallen somewhat into disrepute. Yet Letchworth, after all, is founded on the principle that agriculture and industry should balance each other in the community. That we should not herd industry together in one great community where everything is sacrificed to the Great Industrial Machine, and then leave agriculture to the isolated countryside where there would be no communal life. Letchworth embodies the principle of giving workmen a contact with the land, and of giving farmers a contact with the community. That, in brief, is the Letchworth idea, and I believe that it embodies the law by which alone communities can grow wisely. Under that law they cannot grow large, but we do not want large communities. Every large community that man has built has perished and every one will perish, because they utterly deny the social life of mankind.

LOOK AT THE QUESTION from the economic standpoint. No businessman tries to see how

he can increase his transportation charges. On the contrary, he tries to see how he can reduce them. Yet, in the United States, it is a common belief that the more money we spend for transportation the richer we are becoming. But the truth is quite the contrary. Frankly speaking, it might be said that all transportation is waste. Potatoes are no better for having been carried across the continent and cotton cloth is in no way improved by a three-thousand-mile journey. Exigencies of climate and soil compel a certain amount of transportation, but, in a nation which kept a proper set of books from which a proper trial balance could be drawn, I am sure that its financial advisers would study how to decrease the amount of transportation, not how to increase it.

Letchworth is based on the principle that the less transportation of goods the better. Every man who lives in Letchworth may have a garden if he wishes, while working in any of the forty industries that are there now established, and a part of Letchworth is set apart for farming of all kinds. Thus the food question in a very large measure does not involve a huge waste in transportation. Correspondingly, it permits those who farm to have access to a community which has already attained a population of over 12,000. Add to that the fact that Letchworth is built on the self-owning principle, with private ownership of land prohibited, and you have the whole principle of the Letchworth experiment. Instead of being much overrated as the *Public Ledger* so bravely states, I predict that there will be thousands of Letchworths in the United States before this century comes to an end. We have had them here, in embryo, in the early days of American industry in New England. I know one that still exists. We shall return to them, some day, for that I believe is the right law of communal growth.

YOU CANNOT DEFY SCIENCE. You cannot cheat the Truth. You cannot build permanently on a rotten foundation. Man is a social being and the law of his social needs must be fully observed if we would really build a nation great by reason of the quality of its life. To seek to build it on the quantity basis means that we shall pass as Tyre and Sidon passed. There are forces which are stronger than banks and governments. There are forces which today mock at

the technique of city planning, because they know their power. Sadly enough, there are few city planners who are aware of the forces that lie behind the building of towns and the growth of nations.

Once before in these pages we discussed the program of What To Do. It is so easy to find people who can tell you how to do anything but so difficult to find anybody who can tell you what to do. Curiously enough, the Cities Committee of the Sociological Society of London, which is today publishing literature on reconstruction of surpassing interest, has constructed the following program, which it entitles "What To Do":

Our faith is in moral Renewal, next in Re-education, and therewith Reconstruction. For fulfilment there must be a Resorption of Government into the body of the community. How? By cultivating the habit of direct action instead of waiting upon representative agencies. Hence these social imperatives:

1.—Cease to feel Labour personally as a "burden," or see it socially as a "problem;" practise it as a primary function of life.

2.—Raise the life-standard of the people and the thought-standard of schools and universities; so may the workman and his family receive due meed of real wages; the leisure of all become dignified; and for our money-economy be substituted a life-economy.

3.—Stimulate sympathetic understanding between all sections of the community by coöperation in local initiative; so may European statesmen be no longer driven to avoid revolution by making war.

4.—Let cities, towns, villages, groups, associations, work out their own regional salvation; for that they must have freedom, ideas, vision to plan, and means to carry out, (a) betterments of environment (such as housing fit for family life and land for a renewed peasantry), (b) enlargements of mental horizon (such as forelooking universities quick with local life and interests,) (c) communitary festivals and other enrichments of life. All these must be parts of one ever-growing Design for the coming years to realize.

5.—Make free use of the public credit for these social investments; but don't pay the tribute called "market rate of interest;" create the credit against the new social assets, charge it with an insurance rate and a redemption rate, and pay the bankers a moderate commission to administer it through their

system of interlocking banks and clearing houses; the present unacknowledged use of the public credit by bankers must be recognized and regulated, and being for private profit must be subordinated to the new communitary uses.

6.—Fill the public purse from a steeply gradated income-tax (proceeds being shared by the local with the central authority); discriminate in favour of investments that improve the environment and develop the individual. Let the tax-gatherer take heavy toll of "unearned increments," such as the "bonus" to shareholders, the appreciation of speculative securities, the rise in land values from growth of population.

7.—Eschew the despotic habit of regimentation, whether by governments, trusts, companies, tyrants, pedants or police; try the better and older way of coördination expanding from local centers through city, region, nation, and beyond; so may the spirit of fellowship express itself, instead of being sterilized by fear, crushed by administrative machinery or perverted by repression.

8.—Resist the political temptation to centralize all things in one metropolitan city; seek to renew the ancient tradition of federation between free cities, regions, dominions.

9.—Encourage the linkages of labour and professional associations across international frontiers; it is these that can quicken the unity of western civilization and bring forth its fruits of concord. Further, let our imperial bureaucrats cease from their superior habit of instructing the orientals and try to learn from them.

10.—In general, aim at making individuals more socialized and communities more individualized. To that end, let schools subordinate books to outdoor observation and handicrafts; let teachers draw the matter and the method of education from the life and tradition of their pupils' own region, as well as from the history and culture of mankind at large. Let universities seek first for synthesis in the civic life around them; and only thereafter in the pages of philosophy. Above all let governing bodies learn, if not from the churches, at least from the psychological and social sciences, the distinction between temporal and spiritual powers, and cease to play the double rôle of Pope and Cæsar. As for the chemical and mechanical sciences let them repent of making hell-upon-earth under war-lord and money-lord, and take service in the Kingdom of Heaven on earth. Then may the machine industry learn from artist-crafts-

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man and town-planner the social significance of Design in all human things, including the city itself; that way lies the guild ideal and hope of its expressing the civic spirit. Let civic designers give rustics access to the city as well as townsmen access to nature; that way lies the regional ideal; and some day men will enter through this portal into paradise regained.

Along all these lines there is movement; but lacking in volume and unity. A crusade of direct action has long been afoot; but with many halts and in sparse and isolated companies. The Spirit Creative is liberated and in flight; but too timidly and on dissevered quests. It is time for clearer understanding, closer coöperation, deeper unison between all men and women of goodwill and high endeavour. So may be prepared definitely planned campaigns for the making and maintenance of worthy homes, smiling villages, noble cities. To engage the militant energies of the race in these adventures of constructive peace and heroically to salve the perennial wreckages of humanity would be the moral equivalent of war.

Here is a program which is a challenge to Thought, a basis for Education, a concept of Peace. It is built on the principle that Life is more precious than the Great Industrial Machine, that Art is latent in all humanity, and only needs freedom in order to bloom again in Architecture as in every other form of communal growth, and that Human Brotherhood is the goal of man. To follow such a program you have only to throw away Fear and Hatred, the twin satans that now shackle the mind of man and bear him on the tide that leads to oblivion.—C. H. W.

MR. THOMAS ADAMS, whose work for the Canadian Commission of Conservation has placed Canada well in the front among those progressive nations which do not fear to be honest in talking about the housing problem, contributes an article in this number of the Journal, in which he thoughtfully analyzes the relations of industry to homes and land and architecture. Mr. Ackerman likewise adds, in a shorter article, an illuminating penetration of the fallacy of attempting to make city plans while basing what are called "fundamental principles" upon the premise that "normal tendencies" in city growth must not be disturbed. This paradoxical preachment has

reached a point where its spokesmen should be called to account. We can no longer afford to have our cities and towns deluded into the preparation of a plan, at huge expense, and based upon the idea that the misuse of land can continue unchecked. There is no possibility of making a city plan beneficent unless the community fearlessly accepts the principle of land-control for the benefit of all.

AT THE HEARING IN COMMITTEE on the Tinkham Bill providing for the creation of a Bureau of Living Conditions, Mr. Milton B. Medary, Jr., represented the Institute and spoke, in part, as follows:

"The rapid growth of slum conditions in the congested areas adjacent to large markets for labor is a national menace which cannot safely be left to such meager control as now results from occasional local legislation, generally confined to establishing very low minima of housing and living conditions, and rarely adequately enforced.

"The Tinkham bill offers an opportunity to undertake constructive research and experiment, looking to the isolation of this germ of disease in the body politic, maintaining it in quarantine, and eventually destroying it. It offers the opportunity of conducting such work with public funds belonging to all the people interested, and eliminates the paternalism suspected by the employee as the motive for any interest in housing and living conditions on the part of his employer.

"These congested areas now produce great numbers of criminals, insane, and unfit, and we are meeting the situation with more courts, corrective institutions, asylums, and hospitals. We legislate against the admission of these classes to our shores, and at the same time tolerate conditions which must and do produce them as native-born citizens.

"The children born in this environment are the citizens of a few years hence. You are their representatives in the American Congress. Yours is the opportunity to determine whether or not the conditions under which they must develop their lives is now affecting, or will in the future affect, the morale of the nation, by authorizing the study of their environment as a function of the Federal government.

"The number of families which may be housed

on a given area of land without depriving them of light, air, and space for recreation, the rise in the value of the land by housing a large number of families on a small area, and the effect of this high value in prohibiting a return to less-congested use of the land are some of the phases of the problem which demand the most careful and disinterested consideration. The Department of Agriculture has done much to inform the American farmer of the relation between the intelligent use of land and the sustained value of its products. It would be one of the functions of a bureau of housing and living conditions to determine the extent to which land values may be developed at the expense of the physical, moral, and mental welfare of those who live upon it with the consequent charge against the whole community. Cannot such a bureau parallel the service rendered by the Agricultural Department to rural populations by informing urban populations of the consequences of unintelligent abuse of land versus its legitimate development?

"As an example of conditions as they are developing throughout the country, I have in mind one of the smaller cities in Pennsylvania, which came under my observation while conducting one of the housing projects for the United States Housing Corporation. This city, founded by a religious sect on communal principles, maintained its characteristics as a green village with ample open space and planted areas available for every family for nearly two centuries, but in spite of those traditions, the rapid growth of a great industrial plant has recently resulted in the creation of a blighted area in which overcrowding and the destruction of decent living conditions go on unchecked."

THE BOARD OF DIRECTORS met in New York City for three days, November 11-13, and an account of the meeting will later be made available to members of the Institute. As we go to press it is only possible to touch upon some of the more important subjects discussed at a meeting which was replete with questions deep in their portent. It required more than one session, for example, to complete the details of the establishment of the Press of the American Institute of Architects, the principal business of which will be the publication of the Journal, but which will also undertake the

publication of books and other literature devoted to the advancement of architecture and the allied arts. There was an enthusiasm and an unanimity on this question, when the last details had been disposed of, which augurs well for this new departure; the Journal will be considerably expanded, at an early date, and will take another great step forward in its ultimate plan.

A circular explaining the proposed change in name has already been sent to members of the Institute, and the hundreds of replies received up to the time of writing, indicate the extent of the interest with which the Journal is regarded. Of course, there are many minds on the question of a name, and there is an evident reluctance on the part of many to see the name changed at all. We hope to be able to announce the result of these considerations in the next number.

DRAUGHTSMEN'S UNIONS was one of the questions to which the Board devoted considerable time, and the discussions, in which every Board member participated with a full consciousness of the issues involved, crystallized in the following resolution:

The Board of Directors of the American Institute of Architects has been informed that movements are on foot in several parts of the country for the organization of Architectural Draughtsmen's Unions, and it has been asked to express its views with regard to such unions.

The Board of Directors recognizes the natural desire of men to join in vocational organizations for beneficial purposes, and it favors the organization of everyone connected with the profession of architecture, either as employer or employee, in associations which have the object to improve the qualifications of their members and their opportunities for service. It believes that, both for the architect and his assistant, a more adequate financial reward will come with the better quality of the service rendered. The Board disapproves, on the other hand, of any affiliation of such associations with industrial unions which might endanger that sense of professional obligation for service to the public which is the foundation of architectural practice.

IN TALKING ABOUT CONTRACTS under the present disturbed conditions of the building industry, the Board unanimously concluded in recommending to the Committee on Contracts that it consider a suitable supplementary clause to the General Contract Documents of the Institute, providing that the contractor be protected against extra costs, during the life of a

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lump sum contract, due to raises in wages over and above the estimated costs of this element, an itemized statement of which should be appended to the contract. A somewhat similar proceeding has been adopted in England and is described elsewhere in this issue, although the contractor, under the English method, is also given a chance to benefit under legitimate savings effected.

FELLOWSHIPS AND THE METHOD of nominating Fellows again gave the Board serious ground for reflections. There has been growing up a considerable discontent with the system of nominations, and the Board has for some time been aware of the fact that the methods which have prevailed are no longer workable to the entire satisfaction of the membership. There are many differences of opinion as to how Fellowships should be awarded, and one needs to consider only one of these, for example, to see how perplexing is the problem. There are Chapters which believe that the Jury of Fellows should not have the power to make nominations but only to accept nominations from the Chapters, while there are other Chapters which take the ground that a Chapter should have no voice whatever. As a result of the discussion at this meeting, the Jury of Fellows decided to make no nominations for the next Convention, and the Board thereupon resolved upon the creation of a special committee to make a study of the whole question. For the good of the Institute, nothing could be more advantageous than such a thorough and careful study of this problem, which lies at the bottom of that cohesion and solidarity in membership upon which the Institute utterly depends for growth along lines of increasing strength and influence.

In this connection it seems interesting to recall the history of Fellows and Fellowships in the Institute, as published in the Journal for February, 1919, and to reprint the summary of that history, which was as follows:

"A reading of this digest is sufficient to indicate the problems which lie in wait for those who would contrive a method of bestowing a distinction upon a class of members, in a professional body, which shall never work an injustice. The problem ought perhaps to be examined fundamentally, when one would ask the question—is a membership distinction a source of weakness or of strength? If it is a source of strength, how can it be conferred so that the preferments will always be just and every member treated fairly? Limiting the number is unfair, since it arbitrarily imposes a hazard—the hazard of living—in order to obtain

what one may be justly entitled to in comparison with the ability or merit of those upon whom it has been conferred.

"Trying to raise the standard, at any time, always imposes an injustice, since it deprives a certain number of men from gaining a distinction upon the same basis on which it was conferred upon those who had the luck to come earlier. In simple justice, it must be clear that once a basis of fellowship is established, all those who pass the qualifications prescribed shall be made fellows.

"To arbitrarily fix the number which shall be admitted in any given year imposes a hazard and an injustice, for the selection then has to be made upon some basis which shall appear to be the fairest. If fifty men meet the requirements at any time, they should in all fairness be treated alike. Otherwise, the injustice falls, not only upon them, but, in so doing, carries with it the temptation to make selections diplomatically and without regard to actual degrees of merit.

"In certain societies, fellowships have fallen into such disrepute that men of any standing whatever would never think of using the designation after their names, for in the scramble for membership, restrictions were broken down until willingness to pay the extra fee demanded was the determining factor.

"The problem is as old as the hills, but it takes on a new and more insistent character as social customs change, organizations grow, and the problems of professional practice become more and more involved in the turmoil of restless change and evolution. In the United States, for example, to fix an arbitrary standard for fellowship in the American Institute of Architects, is almost impossible, since conditions vary greatly throughout the country. That is to say, the standard in New York City, or Chicago, or other metropolitan centers, would naturally be higher than in certain other localities. Opportunity is here a factor.

"Yet the effort to establish the fellowship upon a just and equitable basis can be seen to have passed through many experiments. If fellowship is a source of strength, the problem should be met with all of these facts plainly before those whose duty it is to solve it. It is possible that there is no just method of at one and the same time conferring fellowship for merit and maintaining it upon the high plane where it should be kept—or it is possible that it is a necessary thing which can only be maintained through the tacit consent of the many to sacrifice themselves for the few, as a means of advancing the prestige of a calling."

THE NEXT CONVENTION of the Institute was fixed for Washington on May 5-7, 1920.

ONE INTERESTING REPORT was that of the Small House Committee, of which E. H. Brown is Chairman. The Committee presented for the consideration of the Board the proposed establishment of a national clinical service, in which the members of the Institute should cooperate in the preparation of plans for small houses, under the auspices of the Institute, but with regional administrations. In effect, this plan pro-

vides for a public service along clinical lines, and is based upon the belief that the profession of architecture should find a way to make architectural service available for those who cannot otherwise pay for it, just as other professions have already done. Naturally, a departure as radical as this requires the most careful consideration, but the Board indorsed the principle involved and referred the matter back to the committee, for discussion with other committees, and for report to the Executive Committee, at an early date, as to further details.

THE RUSKIN CENTENARY Exhibition at the Royal Academy in London has evoked an unstinted measure of praise in the English press. Once again the people of England are stimulated to an appreciation of one of their greatest geniuses, for Ruskin would have been known by his drawings if he had never written a line about architecture, even though no writer has yet succeeded in making architecture live in literature as Ruskin did. But here was a man who was not a professional, nor an artist in the sense of a vocation, whose life was crowded with a host of activities, and yet whose fame would rest forever secure upon the drawings in which he sought to record, for his fellowmen, the facts

of nature, the theories of artists, the inventive genius of builders, the sheer art of workers who were industrially free to exercise their creative spirit.

Also it is to be remembered that Ruskin would have established his place in literature even though he had never written "Master Painters," or "Stones of Venice," or "The Seven Lamps." Had he written no single word about Art, the world could never forget "Unto This Last," and it is interesting to know that while the present exhibition contains a copy of the luxurious Doves Press edition of this work, there rests by its side a copy of the penny edition of the same book.

Some of the best of the Ruskin drawings have been published in the Journal, and their names appear in all of the criticisms of the exhibition. In addition to these, however, there have been collected many interesting manuscripts, maps, water-colors, pencil studies, and personal possessions. One room is also devoted to the work of William Morris, the greatest of Ruskin's disciples. Altogether, this centenary commemoration seems to have been carried through with a reverence and appreciation such as Ruskin would have deemed a fitting reward for his unceasing labors.—C. H. W.

Industry, Homes, and Architecture

By THOMAS ADAMS*

"Blessed is he that continueth where he is."—THOMAS CARLYLE

The Drift to the City and Coöperation in Industry

The new light which recent events in the world's history has thrown on modern social and industrial problems, causes us to look with more respect than hitherto on the ideas of some of the English philosophers, whom we have been too prone to regard as visionaries. We are only now beginning to appreciate the general practicability and sanity of men like Carlyle, Ruskin, and Kingsley.

Among the facts that Carlyle deplored as being at the root of the evils of his time was the absence of permanence in the relations between master and man in industrial society. He was

concerned with what is now called on the American continent, the "labor turnover." The constant coming and going of workmen from one job to another, with all the waste and inefficiency it produces, has been one of the chief weaknesses of industrial organization.

This migratory tendency of labor is seen in modern times, not only in the drift of population from the country to the town, or from one industrial region to another within different countries; it has become in recent generations a great international and even inter-continental movement. The laborer claims that the mobility of labor is a good thing, and resents legislative interference with his freedom of movement.

That there is a loss of efficiency to the manu-

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facturer by the constant turnover of labor seems undoubted, but that labor would earn greater rewards if it were less prone to movement and to change of location seems, to say the least, doubtful. The greater stimulus to improvement and to individual development comes from equality of opportunity coupled with the willingness to take the risk of testing new opportunities. A man's efficiency may depend as much on getting work which is congenial to him as on getting work in which he is experienced.

The lack of permanence or continuity of labor in one field might be more injurious under a copartnership system, but, as things are, the freedom of labor to seek new opportunities is essential to progress in spite of the losses that result from labor turnover. Anything that would tie down a man to a district or an industry against his inclination or will cannot in the end produce the best social results, although anything that will encourage him in a condition of free-will to give continuity of service and seek permanence of settlement must be good. What we have to do, therefore, is not to impose barriers to prevent workmen from seeking change but to create opportunities and encouragement for them to resist it.

Transportation and Housing

Transportation and housing have both a bearing on this problem of mobility of labor. Since Carlyle's day the migratory movement has been accentuated by improved means of transportation—by sea, rail, and road. Distances have been greatly shortened in the matter of time, and traveling has become comfortable. The telegraph and the telephone have created links between distant parts and made people less reluctant to separate themselves from their local associations, if they have found that by doing so they could gain some material advantage. Locally the effect of improved transportation has had an exceptionally strong tendency to promote mobility. A man may live ten or even twenty miles from his place of employment if he has fast and cheap methods of transportation. From his suburban home he has command of perhaps a score of places of employment within an equal radius and equally convenient of access. Formerly loss of a job caused the worker in most cases to remove the location of his home.

Whether or not a workman is owner or tenant of his home may also discourage or encourage mobility. Home-owning may do a man good by compelling him to stay in a district against his desire for "change for mere sake of change," but it may do him ill by preventing him from moving where he can get better opportunities. On the whole, home-owning has probably more disadvantages than advantages to the workingman, considered from the point of his money-making value. Where it confers a benefit on the manufacturer by giving him steady and "tied" labor, it may confer an equal injury to the worker. A man may be as much injured by being tied down to an employer by a mortgaged home as by the shiftlessness which may accompany a system of tenancy. The fact of being tied is bad—not home-owning in itself. But while a man may have much more freedom of movement as a tenant than as an owner, the "permanence" which Carlyle regarded as so desirable is promoted by ownership. But to obtain that result Carlyle recognized that the worker had to be granted a permanent interest in the enterprise in which he was employed. *If home-owning is going to be continued it must be accompanied by stable industrial conditions, and such conditions cannot be obtained until there is real copartnership between the different forces that make up the industrial organization.*

Early Industrialism

The mechanical spirit of England in the first half of the nineteenth century, so vigorously deplored by Carlyle, has its counterpart in the mechanical spirit of modern times in Anglo-Saxon countries. Our utilitarianism is not carried to such extremes as formerly. The growth of education and improved opportunities have developed a higher consciousness of the worth of the workers and more respect for the spiritual forces in society. We do not dare, even if we would, indulge in such brutal methods of exploitation of human life as did the Manchester school of the middle of the last century. But many of our captains of industry still regard the world as their special preserve and the workers as being sent to minister to their comfort and create their wealth. Our utilitarianism is less brutal and more respectable, but it is probably a stronger force than ever. The housing con-

ditions of the poorer sections of the population in our great cities provide the evidences of the failure of political and industrial leadership, just as much as they show the weaknesses of human nature. People are still "huddled together in towns in filthy dens like wild animals," notwithstanding that we enjoy the advantages of the parliamentary reform and the freedom that were once thought to be the only obstacles to improvement in housing conditions.

Housing Standards

"Wherever you see want, or misery, or degradation in this world about you, there, be sure, either industry has been wanting or industry has been in error," said Ruskin. He would say that the slum is the effect of defective industrial organization rather than the human frailty of the person who lives in the slum, and that the latter, so far as it is a cause of slum conditions, was first an effect of the former. Yet how many leaders of industry look down on the slum resident as being the victim of his own shortcomings and nothing more. "But," says the American captain of industry, "I did not create the environment which was among the first causes of the low standards of the Slavs and the Italians. They came to me in a condition ready to adopt these standards." Is it all we can do then to let these people bring their standards with them? First of all, the class of immigrant is governed by the demand for low-priced labor, and low-priced labor means badly housed labor. Surely, however, we should make a better selection of immigrants, and, having done so, we should impose our standards on them. Unfortunately, our own standards for the same class are no better than theirs.

The Employer and Housing

No study of the housing problem would be complete which did not take into consideration the question of the extent to which an employer of labor should take an interest in the housing of his employees—whether as a matter of enlightened self-interest or as a public duty to the society which affords protection to his industrial organization and capital. The answer to this question cannot be given by merely stating that, as a business matter, the employer will gain from better housing conditions, or that, because it will be a gain to him, therefore

he should assume responsibility for seeing that his workers have good living conditions as well as good working conditions. The question has numerous side issues, each of which raises a difficult problem. The resentment of the laborer to interference on the part of his employer with his mode of living suggests one of these problems; and another is the objection of the former to the paternalism which is apt to accompany the housing schemes of employers. A third difficulty is that most workers live in large cities, and the segregating of the workers in any one industry in one locality, to make supervision by the employer practicable, is often impossible, even if such segregation were desirable.

Fundamentally, has the employer any responsibility to house or control the housing of his employees in a free country? Apart from the discharge of our duties to society and of our legal obligations as citizens we are—whether employer or employed—entitled to pursue our several opportunities unhampered. If we have had equality of opportunity we have hardly reason to grumble against a fate which leaves us among the poorer classes of society. Given justice, we cannot object to natural inequalities. Given rights, we cannot claim freedom from responsibilities.

Now when we think in terms of the responsibilities of the manufacturer to house his employees, we must have regard to the rights of the employees themselves. Will they, by giving up to the manufacturer part of their responsibility as citizens to see to their own housing conditions, also have to give up part of their rights as citizens? It seems inevitable that if a manufacturer takes upon himself the duty of housing his workers he must limit their rights according to his ideas of what is good for them.

Let us think for a moment what would be the most perfect relation between employer and employed. Would it not be one in which the employer acted as the chief executive and organizer of the business; where both he and all the workmen were paid equitably according to their productive capacity, and where all profits, after such payment and after a moderate return were made for use of capital were equally shared by everybody in the business; secondly, where the factory conditions were healthy and the working hours moderate; and, lastly, where the worker was entirely free to live his own

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life in his own way outside his working hours? If under these conditions a worker failed to provide proper housing conditions for his family it would either be due to his own defects, for which he would be responsible, or to the defects of his education or social organization for which society as a whole might be responsible.

As a matter of responsibility, what duty devolves on the manufacturer that does not devolve on every other employer, and if we were to make manufacturers build houses for their workers, why should not governments, store-keepers, and all other employers do the same? Assuming, then, that we carry this to its logical conclusion, should we have a desirable condition, even if we had a comparatively higher standard of housing? Every employer would have a greater hold on his employees, and every employee would lose certain liberties as the price of his reliance on his employer for his home.

But someone says, Why need the responsibility of the employer be accompanied by his rights to control? Surely nothing could be more obvious. If it were not so the manufacturer must sell the houses he builds to his employees, and if he did so he might find that, soon after he built the houses, they were all sold or let and none of his employees were living in them. His only chance of carrying out his responsibilities would be to exercise his rights to arbitrary control of the houses, both as regards occupancy and condition. It is not practicable, therefore, to make manufacturers or other employers build houses and secure better living conditions on the part of their work people, without interference with the liberties of the work people during their free hours and without creating an undesirable form of tie between the laborer and his work.

We must, therefore, in the interests of freedom and from the point of view of society, reject the solution that the employer can be made responsible for improving housing conditions, as a general rule.

It is only as a matter of expediency in his own interests, or as a matter of philanthropy, that employers are likely, or should be encouraged, to take an interest in housing their employees. All the model housing schemes of manufacturers come within one of these categories, or, in part, of both. Bournville and Port Sunlight, model

villages in England, are good business investments. It happens that the generous-minded and public-spirited men who created them were also philanthropists and gave liberally of their own substance, either in the form of architectural ornament, parks, public baths, or institutions, for the benefit of their employees.

These schemes also proved that it paid manufacturers to remove their works out of crowded cities and erect them on cheap land in the country; that it was a benefit to purchase enough land to enable them to plan and develop a model village around the works. In this latter respect they were using their business capacity, not as manufacturers, but as land-owners and as controllers of building operations. They were not discharging their responsibilities as manufacturers but showing how the municipality and the builders between them had failed to discharge theirs as the providers of dwellings. Even with all their advantages, these schemes are resented by some workmen as paternalistic.

And here we come to the point. The responsibility for good housing conditions cannot rest on the individual because, in the first place, the individual cannot control more than his own lot and home, and, in the second place, it is essential that the minimum housing standards should always be on a higher plane than the lowest strata of society. If we want to improve housing standards, then the poorest homes in the city must always be better than the people who live in them want them to be; otherwise we shall always be bending downward toward their standards instead of drawing them upward towards ours.

Nor can the responsibility for good housing be placed on the manufacturer or other employer however much we may welcome model housing schemes carried out through such agencies.

All the houses that are required may be built by individuals or private firms—and perhaps there is no better way in which to have them built—but the responsibility for good or bad conditions rests entirely with the public authorities. Control of standards, the prevention of bad living conditions, the enforcement of public health provisions, the erection of houses where private enterprise fails, and all phases of the housing problem are matters for government leadership and administration.

Where the manufacturer fails, when he does

fail, in regard to this matter is not in his capacity as employer, but as a citizen. He too often stands aloof from public responsibilities. It is not his duty to house his work-people, although it may be his pleasure to do so, but it is his duty to take a keen interest in the governing authority on whom that responsibility rests, and to pay his full share of taxes to enable the authority to discharge that responsibility.

How often we see large manufacturing cities without a single manufacturer of standing on the city council! and how often we see the manufacturers, when on or off the city council, obstructing money legislation which is intended to provide better housing or sanitary conditions! The responsibility of the manufacturer for better housing is therefore an indirect one, and he should be made by some means to discharge it.

There are, however, some cases where manufacturers are distinctly responsible for housing their work-people—in connection with mines and with factories erected in isolated rural areas. Some of our worst housing conditions in Canada are to be found in towns like Cobalt, where the mine-owners have been allowed to neglect their responsibilities. Great fortunes have been made out of these mines. Those who made them should have been compelled to disgorge a small percentage to enable proper housing accommodation to be provided. Here, again, however, it is the lack of *government* control that is to blame—not the mine-owner.

Unfortunately, the modern tendency of the big employer is to regard himself as free from responsibility, even in an indirect way. He makes a large fortune out of works in which the wages paid are inadequate for good housing. He then spends the fortune in providing libraries, parks, and institutes to educate the children that have been brought up in the slums of his own creation. It is the old evil about which Ruskin speaks so forcibly in *Fors Clavigera* in addressing the working classes: "The vile modern notion that you are to be crowded in kennels till you are nearly dead, that other people may make money by your work, and then to be taken out in squads by tramway and railway to be revived and refined by science and art. Your business is to make your homes healthy and delightful."

To Ruskin it was the duty of the state to

see to these things; to let in light to poor rooms, back streets, and crowded alleys.

Coöperation Is Constructive Individualism

It has been one of the blunders of British policies that insufficient weight has been given to the teaching of Carlyle and Ruskin. Many people before the war despised both these seers with the same enthusiasm that they worshipped the now discredited German materialism. In the western hemisphere this preference for narrow utilitarianism has been also much in evidence. Care for the development of humanity, whether in the individual or in society, has long been qualified in England by the powerful selfishness and class distinction of vested nobility; in the western hemisphere the same disregard of the things that make for human growth comes from an undue worship of riches and of the kind of success that consists in achieving riches.

Dr. Shadwell, a publicist of much weight and influence in England, gave long quotations in the concluding chapter of his book on "Industrial Efficiency," published in 1906, which showed how much even he really misunderstood the "natural failings" of England. He quotes without condemnation, among others, the candid German critic thus:

"The young man or woman leaves the primary school in England with no idea of duty and no knowledge that the position of your country was won by the sacrifices of past generations of war, or that war is still one of the means by which progress of the race is maintained. . . . It is within my own knowledge that wages have recently risen in England to a degree beyond the advance in productivity so that your labor is paid more and produces less."*

So we are to believe that the sober truth about the national weakness of England is that she did not follow the lead of German "Kultur" and worship war and low wages with their combined effects of creating poverty and slums.

Efforts to improve the wages, standards of comfort, and to remove the impediments to opportunity which are caused by class distinctions have always been received with denunciation by advocates of utilitarian individualism and bureaucracy. To such men the interests of

*The National Review (June, 1905).

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property are always more sacred than the interests of human life, and the distinction between coöperation and socialism is not understood. Both are pooled together as antagonistic to individual development by those whose concept of individual development is that of developing the individuals of a class—a class which they sincerely believe to possess divine attributes to lead and rule. This idea is no less pernicious because it relates to a class than it is when it relates to an individual of the stamp of the Kaiser.

Coöperation, as distinct from most forms of socialism, is constructive individualism. It is the force that is needed to give unity without destruction of individual initiative and to create reform without dependence on governments. All great reformers have seen that individual reform and coöperation are of greater importance than legislative reform. Some of them were not practical enough to see that coöperation needed the stimulus of legislative approval and encouragement; but even Ruskin, with all his idealism and dislike of too much government, said: "Government and coöperation are in all things the laws of life; anarchy and competition the laws of death."

One of the most common arguments of the great industrial organizers who have made their wealth as the heads of great trusts is that the development of successful commerce depends on competition because thereby individual initiative is best promoted. Labor unions and coöperative societies are regarded as evil things because they are presumed to lessen this initiative. But surely the objections to organized labor and coöperative institutions raised by the heads of great trusts is inconsistent. Are these capitalistic trusts anything else than coöperative enterprises? Why should coöperation not be sound in principle for the workers as well as the leaders of industry?

Rapprochement of Town and Country

The promotion of coöperation as a government policy should relate to the bringing together of the town and country as part of an industrial whole, as well as for purposes of developing separate industrial organizations. The lack of regard for the importance of maintaining an equilibrium between town and country is the source of the difficulty of building

up and maintaining a farming population of adequate proportions to the town population, and leaves a permanent problem in all countries. With the need of more men on the land in the United States and Canada, and with the menace of overcrowding and unemployment in the cities and towns confronting us if any considerable immigration takes place into our crowded centers, we seem about to enter upon another period of endeavor to promote rural development by means of artificial stimulus. For centuries the same problem has confronted the Anglo-Saxon race, and the same methods of dealing with it have been tried time and time again with little permanent success. The Peasants Revolt of the fourteenth century in England was the outcome of the efforts of the powerful land-owning class to tie the laborers down to the soil against their will. In "Utopia," written in 1515-16, Sir Thomas More protested against the decay of arable farming as compared with pastoral industry in his time.

As a commentator on More's writings points out, More was one of the first to recognize that the question of over-population was not one of quantity but of locality. Shifting of centers of population has been going on since the world began. More did not deprecate mere increase of population, but the absence of measures to secure its proper distribution. Writing of social injustices, he might have been describing the American continent when he said, "While people talk of a commonwealth, every man seeks only his own wealth."

In the early nineteenth century the servitude of the farm laborers and tenants was no worse than that of the factory workers. This servitude in town and country was defended as vehemently as the slum dwelling or the sweating system is today by the interests that enjoy profits from them. The proposals to stop overworking and demoralization of young people in factories were denounced, and there was talk of the "pernicious tendencies of all legislative enactments upon trade and manufacture." The same arguments have been used and will continue to be used against every effort to improve social conditions. "Liberty of the subject" and "freedom of contract"—these precious phrases that have been made the bulwarks of slavery from time immemorial—are still the main props of its defence. At the very time,

no more distant than 1831, that England was aroused to white passion against negro slavery in America, she was authorizing slavery of the vilest type among her factory workers, and women and children were beaten with thongs and degraded by excessive hours and low wages.

Robert Owen sought to counteract these extremes by going to the other extreme of ideal socialism, and failed. But while his communistic enterprises came to naught, his co-operative schemes had in them elements of success and permanence that have been of lasting benefit to the working classes of England. Coöperation, unlike socialism, recognized practical conditions and the power of individualistic effort and worked through them.

About the same time Charles Kingsley and Frederic Maurice expounded the theories of Christian socialism. Whereas Owen's fault consisted in overrating the value of environment in producing the good in the individual, Kingsley overrated the influence of the individual in creating his environment and underrated the value of social legislation. "God will only reform society," said Kingsley, "on condition of our reforming every man his own self while the devil is quite ready to mend the laws and the Parliament, earth and heaven, without even starting such an impertinent and 'personal' request as that a man should mend himself."

All true in a sense, but inadequately recognizing the power of bad environment to prevent a man from mending himself. Social legislation must proceed simultaneously with individual reform. In "Yeast" he shows more appreciation of this. "If a man living in civilized society has one right which he can demand, it is this, that the state which exists by his labor shall enable him to develop, or at least not to hinder his developing. . . . Property was made for man, not man for property."

Improvement of housing conditions can not be obtained without the extension of coöperation in industry, or without greater control of the development of land in the interests of production and of human life. We must simultaneously seek to promote copartnership in our industrial organization, city planning based on securing proper sanitary conditions and control of land development, and higher standards of housing accommodation under good architectural leadership if we are to make progress in improving living conditions. If the war has taught us nothing else, it has taught us that the discredited philosophers of the type of Carlyle, Ruskin, and Kingsley were nearer the truth than the "practical" man who has been running the world on the same false ethical and economic standards that have just brought several European nations to ruin.

Where Goes the City-Planning Movement?

By FREDERICK L. ACKERMAN

"Fundamental Principles"

The literature of the city-planning movement and the conferences devoted to a discussion of its aims and purposes are replete with allusions to what are called, by those who write and talk, the "fundamental principles" which are supposed to animate city planning as an activity and to justify that activity in the light of reason. While it is not difficult to arrive in a general way at a fairly clear understanding of what is meant by the term, and also what it is hoped will be accomplished through an application of the so-called "fundamental principles" set forth, it is difficult to arrive at anything like a clear understanding of what these "fundamental

principles" mean in terms of action, or specifically, what it is hoped will result from their application.

To engage in the operation of giving conscious direction to the development of our material environment so that it will better serve the common good is a suggestion in the nature of a "fundamental principle," one which appeals without further description as of sufficient merit to justify approval. But, like all so-called "fundamental principles," it conveys little meaning as to how this is to be accomplished unless broken up and applied to concrete situations, which involves consideration of what sort of action should be taken, for action obviously must be conceived in terms of existing conditions.

WHERE GOES THE CITY-PLANNING MOVEMENT ?

Shall We Study Symptoms or Causes?

It would appear that any attempt to translate the so-called "fundamental principles" of city planning into such terms as would constitute a program of action which might serve to give direction to the growth and expansion of our material environment along rational lines should be largely, if not entirely, confined to the realm of scientific investigation and not that of mere speculation, for, as suggested, results are obtained through definite action applied to real situations. Scientific investigation should, therefore, address itself first to an inquiry into the causes which have brought about the conditions which, in turn, give rise to that activity which finds its justification on the ground that by action along certain lines changes in our ill-arranged material environment may be affected which will make for the common good. For it should be obvious to anyone that any attempt to modify existing conditions in our material environment will not become effective unless the causes which gave rise to existing mal-adjustments are eliminated. Hence it would appear that we have a point of departure which may serve as a basis of an inquiry into the present status of the city-planning movement and an evaluation of the work of those engaged in it. This same inquiry may well be used as the basis for a program of action to be applied to real situations.

Any brief statement, of course, which attempts to set forth what might be characterized as the "fundamental principles" which are to be observed by those engaged professionally or otherwise in the complex activities of working out these changes must be in the nature of broad generalizations qualified by numerous exceptions. For in the volume of literature spoken of in the first line of this article, there is to be observed a considerable range of opinion as to what city planning is, particularly with respect to the professional qualifications of those who engage in it. At best, little more than a rather loose and inaccurate description must be used. But for the purpose in hand this loose description will be sufficiently accurate since it is not at all difficult to discover, in so far as definite action is proposed, that the consensus of opinion is in favor of confining action to a certain fairly well-defined attitude as regards matters with

which it is deemed pertinent for those engaged in city-planning work to deal.

"Normal Tendencies"

Without attempting to state in precise terms what may be said to express the underlying purposes of city planning as conceived by its spokesmen; without attempting to set forth the activities which its professional advocates assume should fall within the field of their own special concern; without venturing an opinion as to what constitutes the relative importance of the various professional or lay points of view which must be recognized, given a hearing, and made use of, it is clear beyond any question that the opinion which most readily passes current among the spokesmen of the movement is that city planning is an activity which takes its point of departure in the conditions of the present, and which proposes to accomplish its purpose largely through restrictive legislative action by following a course strictly limited to considerations of "expediency." This regard for "expediency" which is clearly to be observed in every phase of the activity, is set up by the spokesmen of the city-planning movement as constituting a meritorious attribute which should appeal to the conservative and to those who are inclined to the perpetuation of the *status quo ante*.

For in the past it has been the conservatives and those particularly interested in holding the ground already secured who have largely controlled the affairs of government and the economic situation in general and, naturally, any program of action which fails to be accorded a high rating among such as hold to the conservative point of view would not stand any very good chance of immediately becoming effective, and hence the advocacy of what is rated as "expedient" is set up as a "fundamental principle." To be more specific one of the "fundamental principles" set forth for guidance in connection with the preparation of zoning ordinances, and the like, is that any scheme which is to be advocated should give due regard—in fact, it should above all recognize those "normal tendencies" of city growth.

This, perhaps, is as good an illustration as need be given in support of the contention that the entire movement, as now staged, is so based upon considerations of "expediency" as to amount to inhibition or stultification.

Political Expediency vs. Real Progress

Zoning, like all other measures of a restricted character, is supposed to be directed toward the curbing of definite, well-established or "normal tendencies" which have resulted from the freedom of action that is guaranteed in certain fundamental political documents and supported by judicial decisions. By restrictive action, such as is exercised in the zoning of cities, for example, an exterior authority, so far as the individual is concerned, is created to step in and limit action. Since that group of problems with which we are confronted in our maladjusted urban centers arises out of the so-called freedom of action of individuals, it would appear reasonable to assume that what we need to check is no less than those "normal tendencies" which arise out of the comparative freedom of action of individuals. But this does not appear to be the conclusion of the spokesmen of the movement, for while it is generally stated that the problem is to be solved by restrictive legislative action, it is at the same time stated as a "fundamental principle" that by restrictive action we should not thwart "normal tendencies." Of course, this may be using an illustration in which other considerations may very properly be taken into account by way of qualifications; but for the question at hand, it should be sufficiently accurate.

It is this attitude of projecting a future upon the basis of the *status quo ante* which effectively thwarts progress and prevents the acquisition of any accurate knowledge concerning what are the causes which work for present maladjusted conditions. It is a pure assumption that out of present tendencies better conditions in the future may be created; what evidence there is at hand points clearly in the opposite direction.

The inclusion of considerations of "expediency" among the "fundamental principles" which should direct the work of those professionally engaged in the work of city planning, or which are to be used in the work of stimulating public opinion, lifts the entire activity right out of the field of scientific research and investigation, and lodges it in the field of politics. This statement is not made with a view of depreciating the value of considering a program of action in terms of practical politics; it is rather presented with a view of pointing out that any

scientific study of causes cannot properly be rated as such so long as it takes possible political consequences into account in the formulation of its conclusions. This is precisely the error into which the spokesmen of the movement have fallen in their attempt to organize the so-called "fundamental principles" of city planning. The so-called "fundamental principles" are merely suggestions of what is deemed to be politically expedient at the present juncture. At the present juncture what is deemed politically expedient is action, which coincides with "normal tendencies;" and "normal tendencies" are obviously the cause of our trouble. Translated into workaday English, "normal tendencies" represent the right of the individual to use the community as a machine for procuring individual profits and benefits, without regard to what happens to the community. That is why we have maladjusted communities. That is why we shall continue to have them, so long as the spokesmen of city planning continue to proclaim that adjustment can be had without touching the sacred causes of the maladjustment.

Unwarranted Assumptions

"Normal tendencies" is merely descriptive of developing situations which now prevail and are clearly evident upon superficial examination. Action in any field takes a direction determined always by the resultant of the forces acting upon that field. That the more powerful of the forces which gives rise to a situation are beneficent does not follow; and hence any assumption that "normal tendencies" or tendencies which may be said to be characteristic of a developing community will result, if followed, in a better condition is not warranted.

Hence it is that a study of the forces out of which the present maladjustments have arisen, should be the focus toward which inquiry should be directed, and an inquiry of this nature would concern itself with causes and not with prospective political situations. An inquiry of this nature would reveal the prospect, likewise, of what would likely be the outcome of any attempt to deal with these causes by other methods than that of allowing them to operate in comparative freedom—which is what is meant by saying that in our schemes of restrictive legislation we should above all recognize and allow "normal tendencies."

The Competition for the Federal Buildings, 1792-1793*

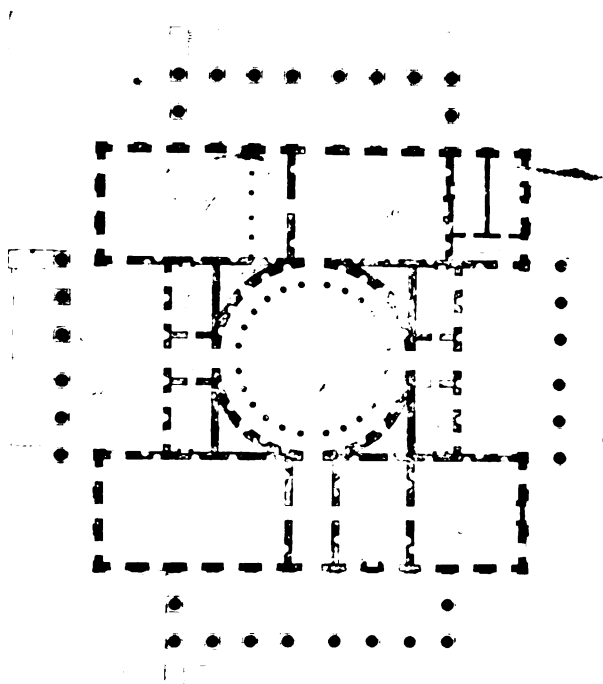
V. THE COMPETITORS AND THEIR DESIGNS

By FISKE KIMBALL and WELLS BENNETT

The Virginia Builders

The builders on the Virginia side of the Potomac were not less eager to secure the Federal work than those on the Maryland side, but they were fewer in number. Jefferson, in his "Notes on Virginia" (1784), had bewailed the fact that a workman could scarcely be found capable of drawing an order, and as late as 1819 he brought artisans from Philadelphia to work on the University. It must not be forgotten that the great tidewater mansions had almost ceased to multiply even before the Revolution, and that few fine houses were built in the up-country before 1800. In the intervening period of pioneering, of war, and recovery, however, had fallen the building of the capitol

*Continued from the August issue.



PLAN FOR THE CAPITOL—SAMUEL DOBIE
(From the original drawing in the possession of the Maryland Historical Society)

at Richmond, and this had brought forward one or two men of greater skill, to rival the builders from farther north and farther south.

SAMUEL DOBIE

The work of Samuel Dobie, in connection with the Virginia capitol, has already been discussed in the Journal¹ and need only be summarized here, with the addition of a few new facts and a fuller interpretation. Of a name long honorable in the colony, he first appears in Virginia records in the "List of the inhabitants . . . in the city of Richmond: 1782,"² where there is the entry: "Samuel Dobie; age: 52; occupation: Chymist; lots improved and their numbers: 1, 530; slaves titheable: 1; slaves not titheable: 2; cattle, horses, mules, etc.: none." The improved lot, number 530, at the northeast corner of what are now Sixth and Grace Streets, is the same mentioned by the Richmond antiquary Mordecai as the one occupied by Dobie.³

In 1786 Dobie is spoken of by Edmund Randolph, then one of the Directors of the Public Buildings engaged in erecting the state capitol on the plans sent from Paris by Jefferson, as "our superintendent, and an adept in draughtsmanship." William Hay, another of the Directors, speaks of him in 1790 as "Surveyor of Public Buildings," a title afterwards given by Jefferson to Latrobe when supervising the Federal Capitol. For his services as superintendent or surveyor, examining the work and certifying the accounts of individual contractors, Dobie seems to have received three per cent on the cost.⁴ He occasionally made structural drawings, as in 1790, "A plan of the Pediment Roof of the Capitol" and in 1793 "plans to do the work by. . . in building the stone steps and stairs,"⁵ and in the absence of any sections

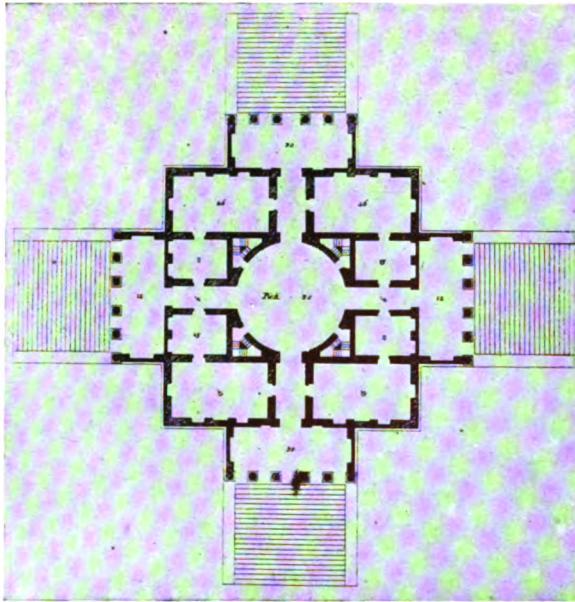
¹Vol. III (1915), pp. 477-478, 481-484.

²"Heads of Families, First Census of the United States: 1790" (1908), p. 111.

³"Richmond in Bygone Days," p. 87.

⁴"Calendar of Virginia State Papers," vol. 8 (1890), p. 317.

⁵*Ib.*, pp. 318, 319.



PLAN OF PALLADIO'S VILLA FOR ALMERICO
(From Leoni's "Palladio," Book II, Plate XIV)

of the building among the original designs, must have made all the interior details. In one instance, at least, he himself acted as contractor, since it appears that he "contracted with the Directors in February, 1787, to put a flat roof on the Capitol which should be durable and tight for £170," but, "after much labor in honestly endeavoring to fulfil his contract," it proved impossible to make the roof tight, and the original design, which showed a pediment, was followed. Dobie's connection with the Capitol came to an end in 1794, when the work ceased for the time.

In 1796 he applied for appointment as architect of the Penitentiary,¹ for which plans had also been sent from Paris, but the post was given to Latrobe, who had just arrived in this country. None the less, Dobie asked compensation the next year for an unused plan of the building furnished by him to the board.² Henceforth we hear no more of him, except in 1798 when, now a man of sixty-six, he was recommended by Hay to pass on the execution of the Penitentiary, "as the best judge I know of work of this kind."³

Besides these evidences of his practical experience, we find at the Virginia Capitol some examples of his taste in design, in the interiors and in departures from the original drawings.

¹Calendar of Virginia State Papers, vol. 8 (1890), p. 406.

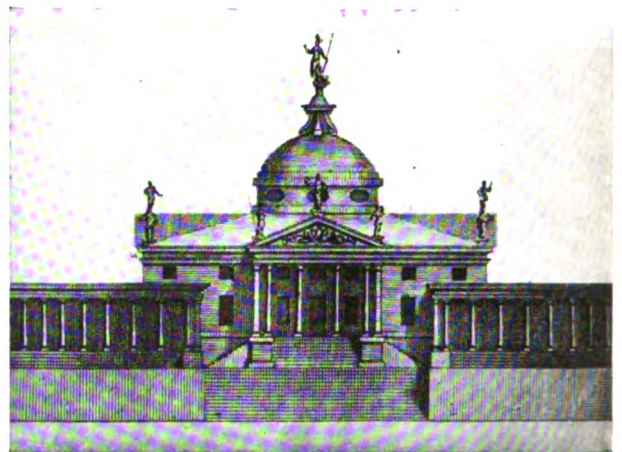
²*Ib.*, p. 445

³*Ib.*, p. 507.

The rooms for the Senate and House are lined with pilasters above a pedestal dado: in one case Ionic with modillions, in the other Doric, coupled. The details and proportions are of an academic correctness of design which had been very rare in Virginia before the Revolution. They testify to the use of some architectural handbook, which the formulæ show in this case to have been not Palladio or Vignola, but Scamozzi or some derivative. Over the square central hall is a hemispherical dome. True, it is only of plaster, and rises not from pendentives but from a flat soffit, yet, though unstructural, it is one of the first domes of any sort executed in North America.¹

On the exterior of the building there is a similar instance of Dobie's classical tendencies, in the addition to the original design of pilasters at every bay along the sides and rear of the building. Jefferson, partly under the influence of Clérisseau, partly no doubt to save expense, had omitted the engaged order of the cella walls of his prototype. Dobie in restoring them gave the first instance, in an American public building, of such a regular wall treatment with the full colossal order. There had, indeed, been few examples in Colonial buildings of any type: St. Michael's Church in Charleston and the end walls of the Apthorpe house in New York were almost alone; and the nearest approach in civic work was Harrison's Brick Market at Newport, with its two-story order above a high

¹The interior dome of the State House at Annapolis was completed at much the same time, in 1793. See D. Ridgely: "Annals of Annapolis" (1841), p. 147.



PALLADIO'S ELEVATION FOR THE VILLA TRISSINO AT MELODO
(From Leoni's "Palladio," Book II, Plate XLV)

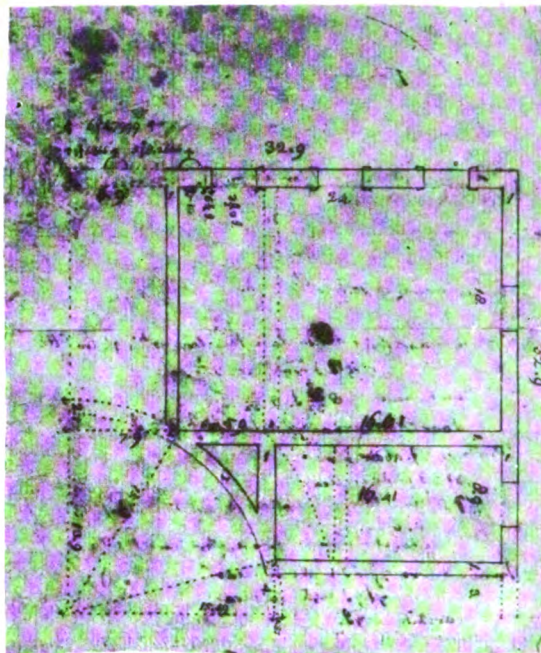
THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793

arched basement. The scheme was an academic one, exemplified in some of Palladio's palaces at Vicenza, and, in view of Dobie's use of Palladio's volumes in his design for the national Capitol, there can be little doubt that he derived his inspiration for the pilasters also from the engravings of the work.¹

It may well also have been Dobie, as an advocate of academic treatment generally, who was responsible for the idea, as well as the attempted execution, of a balustraded terrace roof for the building. An aversion to visible roofs was among the strongest feelings of one group of architects and laymen of the early Republic. This was in striking contrast to the practice of Colonial days, in which not a single building without a visible roof can be found, and eaves balustrades are exceedingly rare. That of St. Paul's Chapel, New York City, can scarcely have been intended to conceal the vast roof, and itself may date, like the spire, from Republican days. So that the sole notable example of concealed roofs is that of the aisles of Christ Church in Philadelphia, with their high, attic-like parapets. In contemporary Europe, however, visible roofs had long been taboo in buildings of academic pretensions. Although Palladio's published designs for villas and palaces all show pitch roofs without eaves balustrades, his Basilica, like the Library of St. Mark and the palaces of Michelangelo on the Capitol, had only a balustrade visible above the cornice; and this scheme of roof *à l'italienne* had been an index of the spread of academic influence. It marked the first designs of Inigo Jones for Whitehall and the Queen's House, Greenwich; it appeared in France for the first time in the garden front of Versailles and the colonnade of the Louvre. For the academic style indeed "no roof but a spherical one" was thought sufficiently dignified to show.

The appearance of this feeling in America after the Revolution was broadly contemporary with the contrary tendency to imitate the form of the temple with its broad expanse of roof, and for a time the two struggled for mastery. Washington's portico at Mount Vernon, built during the Revolution or shortly after, may have been the very first domestic structure to have a balustraded cornice, which appeared almost simultaneously in the North in the Peirce-Nichols house at Salem. When Washing-

¹Book 2, pls. 13 and 17.

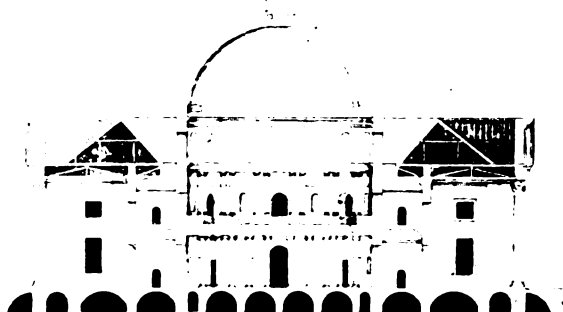


QUARTER PLAN OF A VILLA ROTONDA STUDY FOR THE GOVERNOR'S HOUSE AT RICHMOND, BY THOMAS JEFFERSON (From the original drawing in the Coolidge Collection, Boston)

ton wrote of Hallet's first competitive design, a peristylar temple, "the roof. . . I must confess does not hit my taste,"¹ it was not any eccentric form of roof, but visible roofs as such which he was condemning. Many of the competitors themselves already shared his feeling, for eaves balustrades appear in a clear majority of the schemes submitted, and, at least in Hart's design for the President's House and Lanphier's for the Capitol, the roof is a flat one. That Dobie also did not employ, in this case, a flat roof behind his balustrade was due, no doubt, to the practical difficulties he had experienced with the one at Richmond, which seems to have been the pioneer attempt in America.

In his design for the national Capitol, Dobie used much the same vocabulary of forms as at Richmond, in the development of a scheme which was itself consecrated by academic sanction—that of a *villa rotonda*. It has, in other words, a square mass with four porticoes, about a circular domical hall lighted from above. It is a scheme less practical than purely ideal, with monumental porticoes and vestibules actually exceeding in area the rooms for use—the extreme

¹Letter to the Commissioners, July 23, 1792; L. C., Letter Book 11, p. 228.



SECTION FOR THE CAPITOL—SAMUEL DOBIE
(From the original drawing in the possession of the Maryland Historical Society)

expression of abstract enthusiasm for classical form.

Suggested in the designs of Giuliano da San Gallo and Serlio, the type was first completely developed and executed by Palladio¹ in his famous villa erected near Vicenza for Paolo Almerico, with four hexastyle porticoes. Drawings of this, according to Palladio's second project, differing from the existing work by Scamozzi in having a full hemispherical dome on the exterior, are given in Palladio's "Architecture," Book II, plates xiv and xv. It is less known that Palladio restudied the scheme once more in his project for the Villa Trissino at Melodo, executed ultimately on a different plan. It appears among his published designs, Book II, plate xlv. Here, above a low, pedestal-like drum, there is a Roman saucer dome with steps at the base, though still with a lantern-like crowning mass.

From Palladio's plates the scheme was copied in northern Europe, with a literalness or a freedom of modification dependent on the degree of academic fervor. In the royal pavilion at Marly (1680-1686), the most purely ideal of the buildings of Louis XIV, the absolute identity of the four sides was retained, but the exterior dome and the projecting porticoes were alike omitted, while pilasters of the full height of the walls were carried entirely around. In England at least four houses of the type were projected in the decade from 1720-1730, generally with

¹The best discussion of the *villa rotonda* type in the sixteenth century is by Fritz Burger: "Die Villen des Andrea Palladio" (1909), pp. 53-66, 112-118.

some or even all the porticoes omitted and with other concessions to economy or use. Two, however, retained an exterior dome: Mereworth Castle, by Colin Campbell, following Palladio's plate of the villa for Almerico with the utmost literalness throughout; Lord Burlington's villa at Chiswick, otherwise less complete, having an octagonal saucer dome with steps.

In America, where Palladian ideals were so little followed before the Revolution, there was no executed building of the sort, but one had already been projected by the great exponent of Palladianism, Jefferson. Among his studies at the time of the founding of Richmond, when chairman of the Directors of the Public Buildings (1780-1783), closely related with earlier studies of his for a Governor's House for Virginia, is the quarter-plan of a *villa rotonda*.¹ Although somewhat reduced in scale and showing but a single frontispiece of four columns, this follows exactly the interior arrangement of Palladio's design.

For the needs of a great legislative building, Dobie was forced to increase the scale beyond that of any other example of the type, making the main block 220 feet square, the columns 53 feet high. With uncompromising ardor he retained all four porticoes, even adding two columns to the Palladian width of six in front and rear. They thus surpassed even the great hexastyle portico of the Virginia Capitol itself, the first in America. The central rotunda was 95 feet in diameter, surrounded by an interior peristyle in the main story, with a balcony giving

¹Kimball: "Thomas Jefferson, Architect" (1916), fig. 105, pp. 33 and 140.



ELEVATION FOR THE CAPITOL—SAMUEL DOBIE

THE COMPETITION FOR THE FEDERAL BUILDINGS, 1792-1793

access to the rooms above. With its circle of pilasters in the second story and its arched clerestory below the spring of the dome, this would have been a noble room. On the exterior, the dome follows not the hemispherical form of Palladio's plate of the villa for Almerico, but the Roman saucer type he showed for the Villa Trissino. Indeed, it even surpasses that of the Villa Trissino in classical accuracy. The materials for such revision of the design, however, themselves exist in Palladio's book, in the plates of the Pantheon (Book IV, plates lvii, lviii), the Galluce (xxvi), and especially the temple of Vesta (xxxix). Even the sculptured figures which Dobie shows on his elevation seem to be clumsily copied, with little modification, from those in these same plates (Leoni edition). We can thus scarcely doubt that it was directly from Palladio, rather than from any of his imitators, that Dobie derived the forms of his design for the Capitol.

The coincidences that Dobie was in Richmond at the time when Jefferson had proposed a *villa rotonda* for the Governor's House, that he had shortly afterwards, as superintendent, come into charge of the drawings and projects of the Directors, seem, however, scarcely accidental. Whether the fragmentary sketch which Jefferson retained was but a study for a more elaborate drawing which remained in Richmond, or whether (as is more probable) his idea had merely been advanced orally to the Directors, it may not be too hazardous to surmise that the first suggestion for the employment of the *rotonda* came to Dobie through the example of Jefferson.

In any case, his own contribution and his own distinction as one of the minor pioneers in the introduction of academic forms into America, are sufficient to rank him well among the abler of the competitors.

JOHN COLLINS

The second prize for a design for the President's House was awarded, as we have seen, to John Collins. His address is not given and his name does not appear elsewhere in the Commissioners' records. As it is one so common (appearing four times in the census of 1790 for Maryland, five times for New York, seven times for Pennsylvania, and so on) it might at first seem impossible to identify him. But the pres-

ence at just this time of a John Collins among the contractors for the Capitol at Richmond, in collaboration with Dobie, is too significant to be accidental, and we may confidently assume that the men were one and the same.

Collins' name does not occur in the list of the inhabitants of Richmond in 1782, or on the map by Jefferson giving the property owners at that time. Among the heads of families in the Virginia state census of that year there was a John Collins in Halifax County and one in Orange County, while in 1783 one appears also in Shenandoah County, and in 1785 another in Norfolk County. Very possibly one of these was our man.

His first appearance in the vouchers for the Virginia capitol (now at the state Library) is as one of three referees to decide on the fulfilment of a bond of Edward Voss, obliging himself to repair certain defects in the columns of the portico. Collins was thus already known and respected in Richmond as a judge of such matters. During 1793 he was himself doing much work for the Directors of the Public Buildings, having a contract (not itself preserved among the Capitol vouchers) on which he was paid £371 at various times from April 25, 1793, to January 18, 1794. He also certified to the receipt of scantling, nails, and putty. One part of his work was the glazing of the building, according to his bill of December 9, 1793.¹

These scanty notices are all we can recover of a builder, who, to judge by the award for his designs, must have shown merit, yet who, like them, soon dropped completely from view.

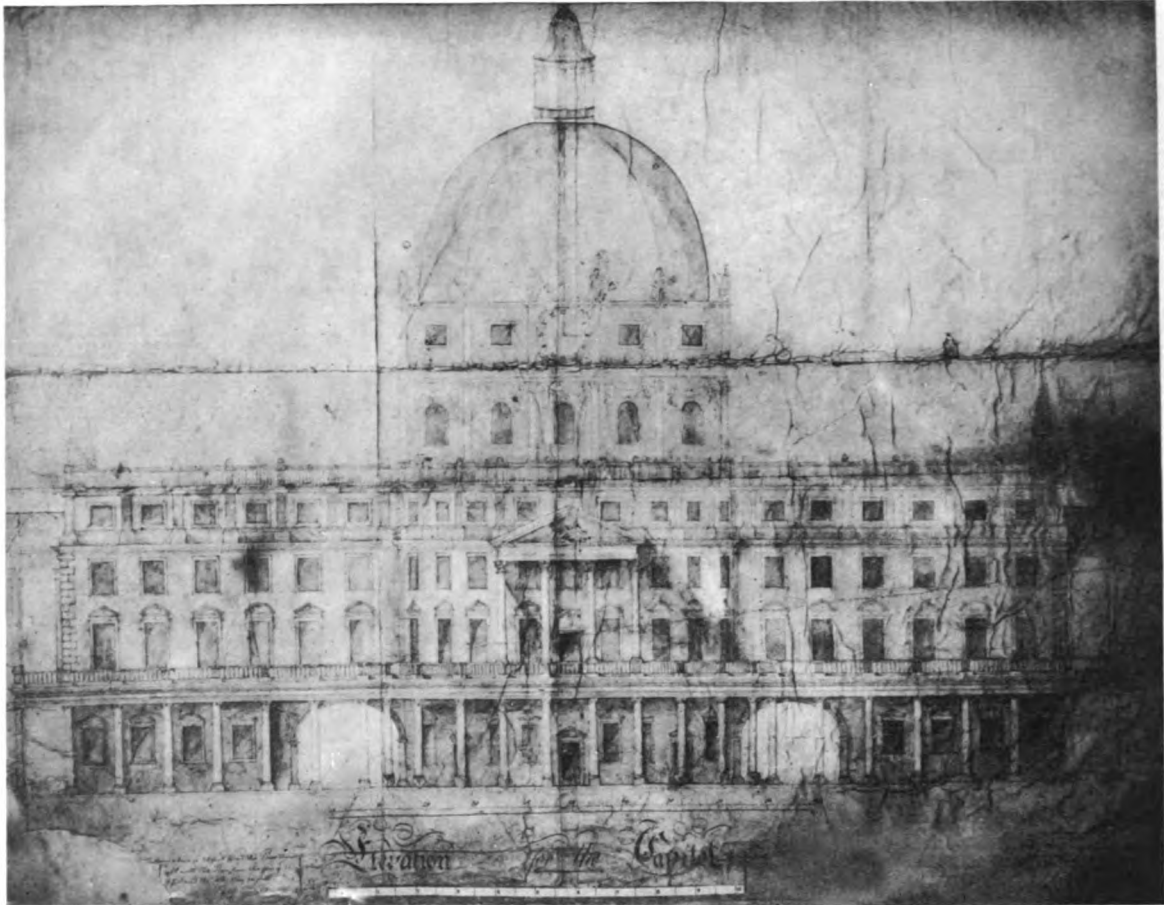
ROBERT G. LANPHIER

The Commissioners did not directly acknowledge Robert G. Lanphier's design for the Capitol, and the single allusion to it² furnishes no clue to his residence or reputation. It seems not improbable, however, that he was a near relative, perhaps the son, of Going Lanphier, the joiner and builder employed by Washington in altering and enlarging Mount Vernon in 1773-1778.³ This would have been in accordance with the then usual custom of handing on the father's business or occupation to the son. As

¹"Calendar of Virginia State Papers," vol. 6 (1886), p. 676; also vol. 8 (1890), p. 317.

²Commissioners to Washington, July 19, 1792, "Letters of the Commissioners," vol. 1, p. 102.

³P. Wiltach: "Mount Vernon" (1916), pp. 126, 127, 140, 141.



ELEVATION FOR THE CAPITOL—ROBERT G. LANPHIER
 (From the original drawing in the possession of the Maryland Historical Society)

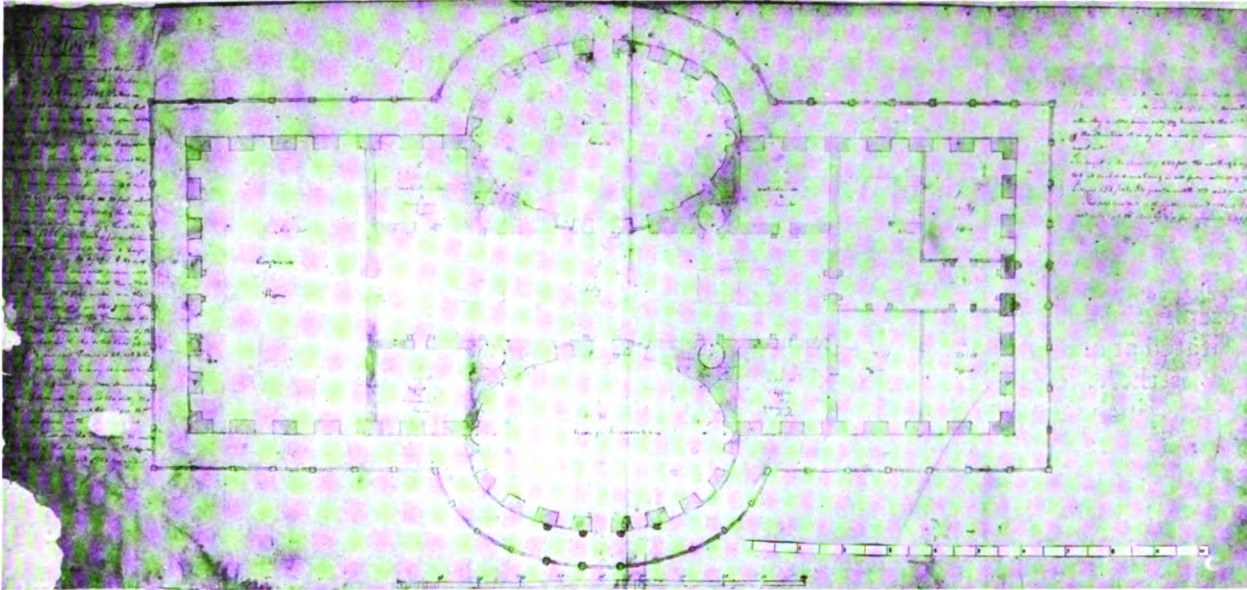
the elder Lanphier was a resident of Fairfax County,¹ it is reasonable to assume that Robert G. Lanphier was also a Virginian. The scanty records of his locality give no clue to any other architectural work he may have done.

That Lanphier's design, with Hallet's, was one of those most seriously considered at the original judgment of the competition, is indicated by the Commissioners' letter of three days later, cited above, when after further consideration, they wrote, "Lanphier's plan is given up as impracticable." What had recommended it especially is revealed by Washington's reply, in which he praises Turner's design for the possession of a central dome, and suggests that the building might be improved by being "surrounded by columns and a colonnade." Both these features, as well as a concealed roof

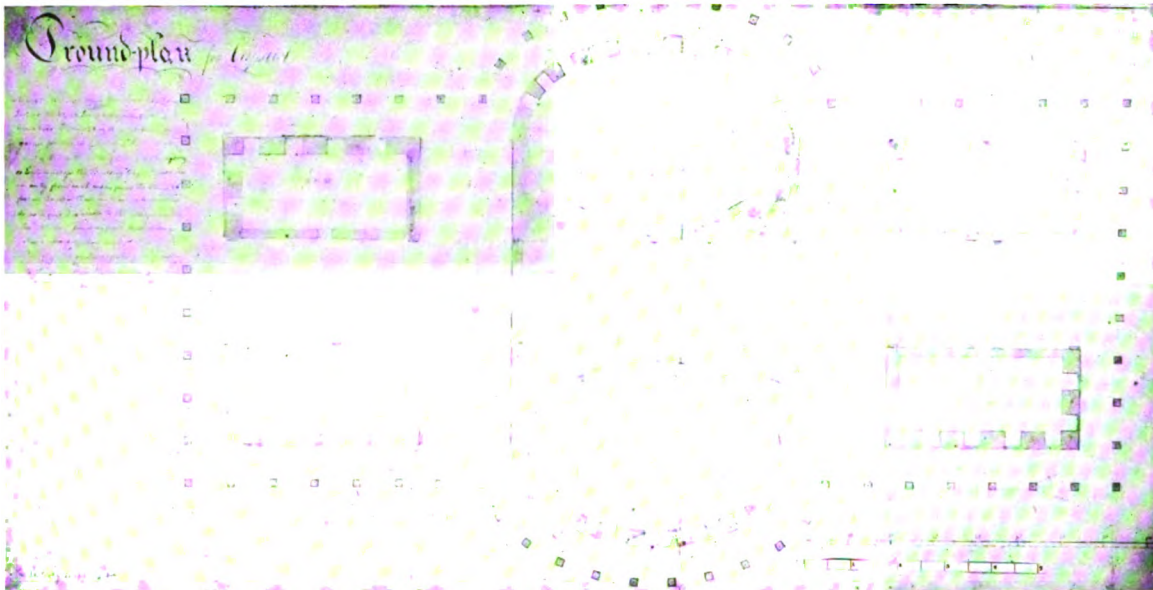
with attic and balustrade (which he favored, as we have seen) are stressed in Lanphier's design.

The plan shows the fullest development of an element which appears in several of the competitive designs: the oval room, here employed on a large scale both for the Senate and for the House. It is a feature which, scarcely known in the Colonies before the Revolution, was common in Europe in the baroque and rococo and was being eagerly taken up in America at just the time of the competition. It was especially associated with France, where, from the time of Louis XIV and Louis XV, it occupied the place of honor in the chateau, projecting boldly in the middle of the garden front. From France it became the favorite device of the rococo in Germany, at Sans Souci (1745), Solitude, and Monrepos (1764). In England the strictness of Palladianism made it less common, but it occurs not infrequently as an interior feature in James Paine's "Plans of Noblemen and Gentlemen's

¹Going Lanphier gives his address as "New Church." This was the name given to the church built by Edward Payne "on the middle ridge near the Ox Road in Fairfax County." See "Colonial Churches in the Original Colony of Virginia," pp. 40, 275, 281, 284, 296.



MAIN FLOOR PLAN FOR THE CAPITOL—ROBERT G. LANPHIER
 (From the original drawing in the possession of the Maryland Historical Society)



GROUND FLOOR PLAN FOR THE CAPITOL—ROBERT G. LANPHIER
 (From the original drawing in the possession of the Maryland Historical Society)

Houses," 1767—a book of some currency in America—which also shows in the design for Kedleston a circular projecting salon surrounded by a peristyle. The first American building to have an oval room was the Woodlands, near Philadelphia, built about the time of the Revolution and substantially remodelled in 1788. During the very year of the competition, Charles Bulfinch, recently returned from France, was including it in his first important house, for Joseph Barrell of Boston, which was to be imitated at once in the Lyman, Derby, and other houses there. In the competition itself, Small's designs include several quasi-elliptical rooms, Faw's has its oval colonnade in the center, and Hoban's for the President's House, like Lanphier's for the Capitol, has a projecting oval room as a central feature. The idea was in the air. Lanphier himself, in his marginal notes, says merely, "Room for the Representatives, 60 x 40. I have made this room and the Senate of oval form with Galleries making, I think, the most commodious for Business that a space could be."

Lanphier's design, curious as it is, would seem

probably to have had some precedent in books, since so many of its forms were not such as were in the traditional vocabulary of a Colonial builder. The placing and treatment of the openings follow conventional standards, and perhaps an engraving of some building in England or on the Continent may have given the inspiration—even one of those in Paine's book. Lanphier's variations as designer and draughtsman, however, completely conceal the identity of the prototype. That the relation of the plan and elevation is not well thought through shows in the spacing of the columns in front of the arched entrances. It is, moreover, not clear that the author understood the bearing of the cupola over the oval rooms below. Of the somewhat grotesque figures he writes: "The figures on the Battlements is Cornucopia offering the horn of plenty to industry: Wisdom holding forth her precepts to justice and Faim offering wreath Laurel to History." These banal allegories, too, perhaps, show a knowledge of English and Italian precedents, a knowledge too vague, however, to give the author any working mastery of design.

A New Theory of the Universe

At the joint meeting of the Royal Society and the Royal Astronomical Society held in London on November 6 last, Sir Frank Dyson, the Astronomer Royal, and Dr. Crommelin, reported upon the results of observing the total solar eclipse of May 29, 1919. Sir Joseph Thomson, the eminent scientist, in commenting upon the deductions offered by Dr. Crommelin, described them as "the greatest discovery in connection with gravitation since Newton enunciated that principle, and one of the greatest achievements in the history of human thought."

Briefly, it may be said that the observations seemed to verify the Einstein theory that the light of stars is deflected in passage past the sun "in consequence of the sun's gravitation." Dr. Crommelin affirmed that, as a result of this verification of Einstein's belief, space would no longer be looked upon as extending indefinitely in all directions.

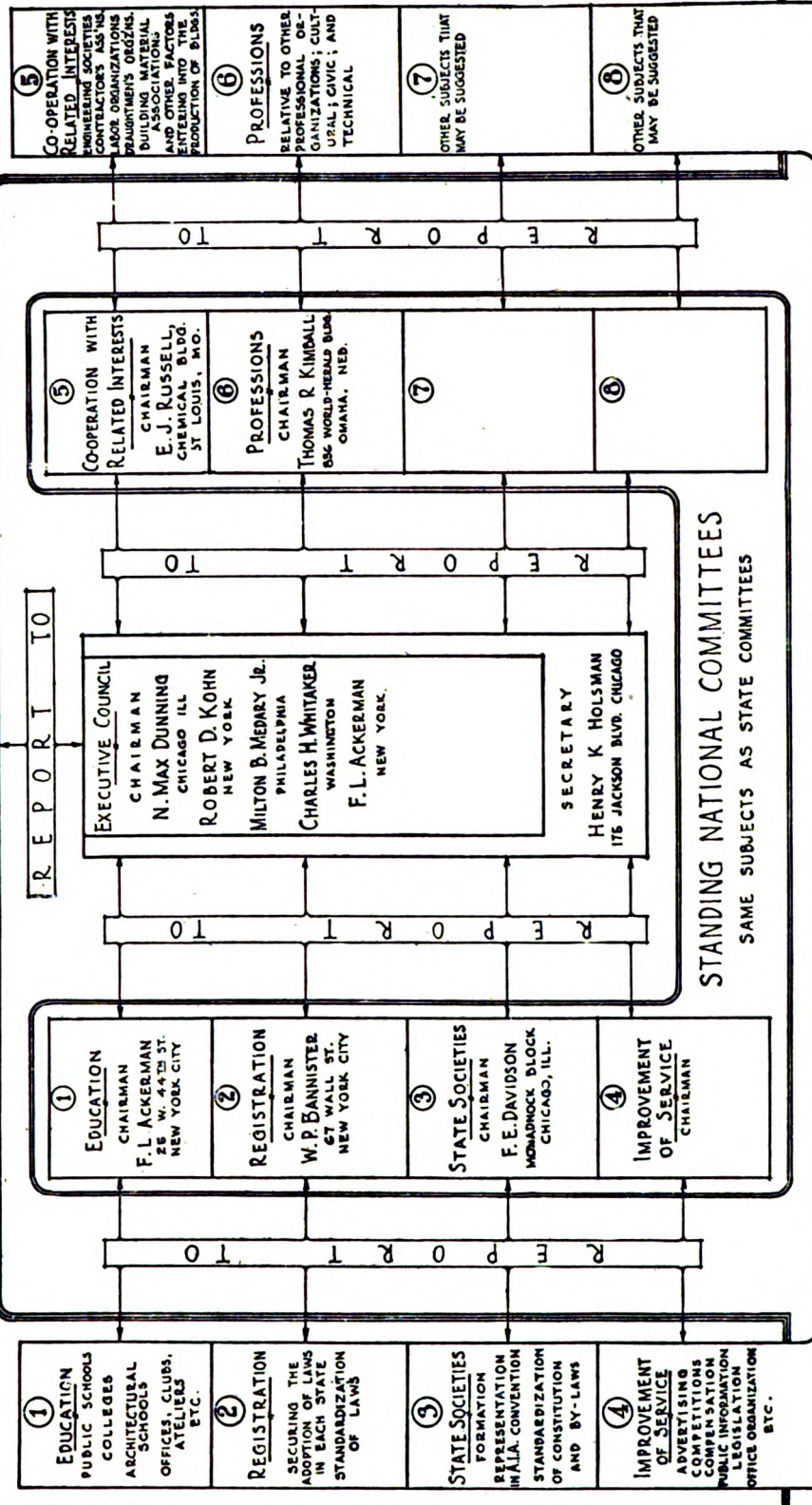
Euclidian straight lines could not exist in Einstein's space. They were all curved and, if they travelled far enough, would regain the starting point, thus putting an end to the theory of unlimited space. Computations to find the radius of space seemed to indicate it as about a billion times the distance of the sun from the earth, which was eighty times the distance assigned by Shapely to the most distant stellar cluster known.

Mathematicians interested in the dimensions of hyper-space will be intrigued by the assertion that "the fourth dimension had been the subject of vague speculation for a long time, but they now seemed at last to have been brought face to face with it." Consideration is now being given to further spectroscopic observations at the next total eclipse of the sun which occurs in September, 1922, visible in the Maldiv Islands and in Australia.

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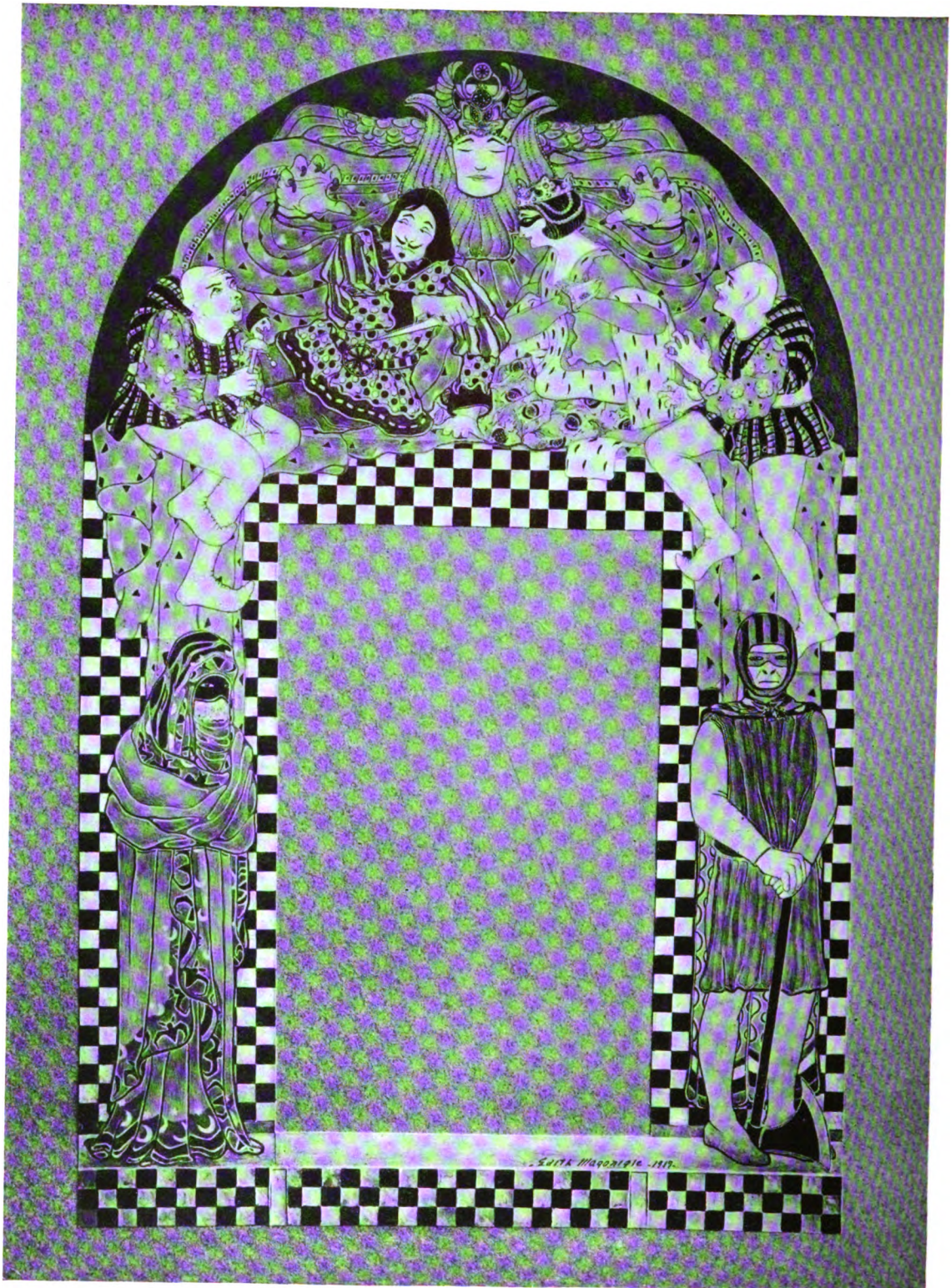
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Milwaukee, Wis. |

EACH STATE OR MAJOR LOCALITY POST-WAR COMMITTEE MEMBER WILL ACT AS CHAIRMAN OF STATE OR MAJOR LOCALITY POST-WAR COMMITTEE

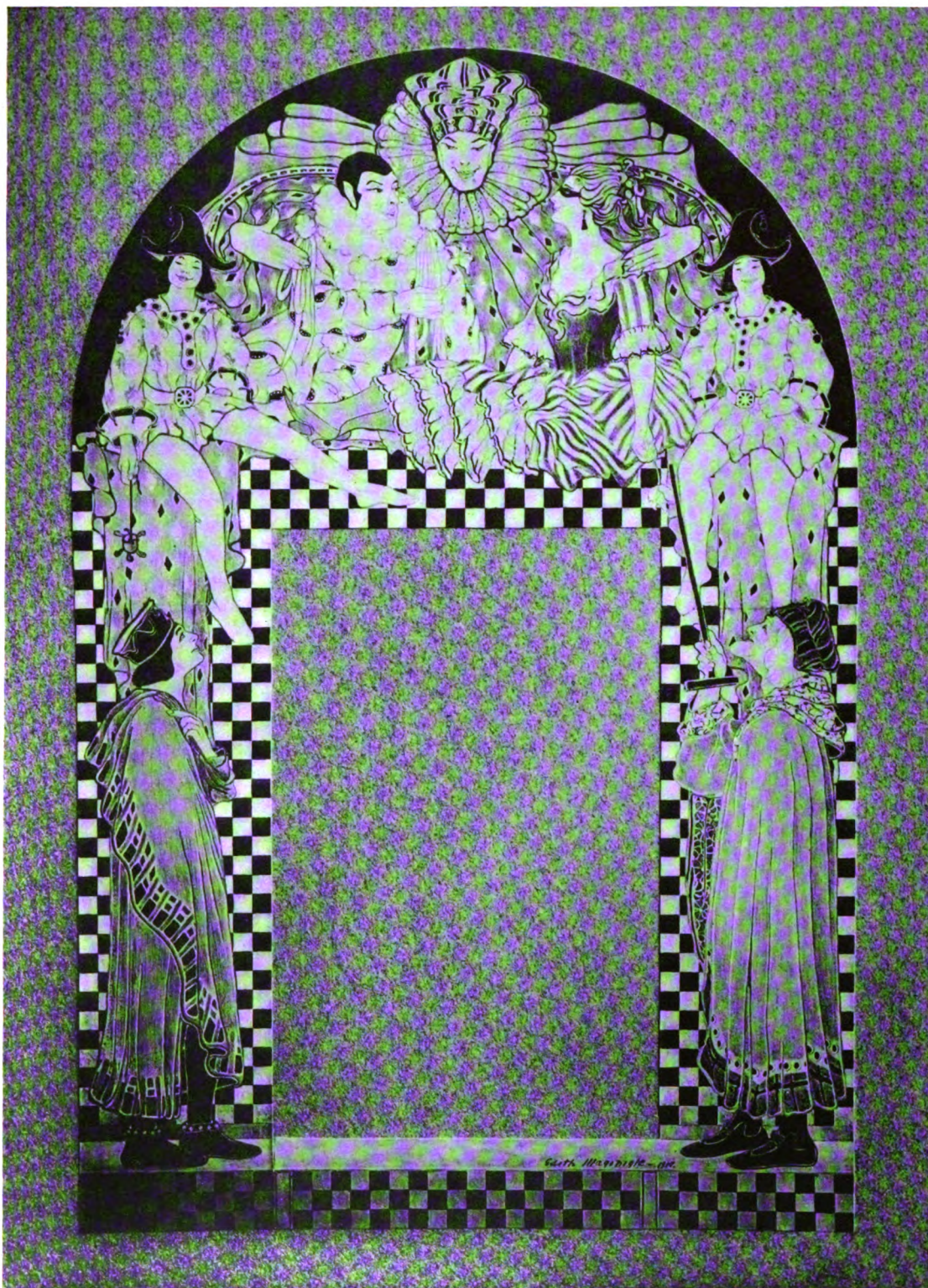


SUBJECTS FOR INVESTIGATION AND STUDY FOR EACH STATE OR MAJOR LOCALITY COMMITTEE WHICH REPORTS CONCERNING EACH SUBJECT TO THE CORRESPONDING NATIONAL COMMITTEE
 SUGGESTED COMPOSITION OF STATE OR MAJOR LOCALITY POST-WAR COMMITTEE
 CHAIRMAN
 [ARCHITECT (INSTITUTE OR NON-INSTITUTE), ENGINEER, CONTRACTOR, BUSINESS-MAN, ARTIST.]

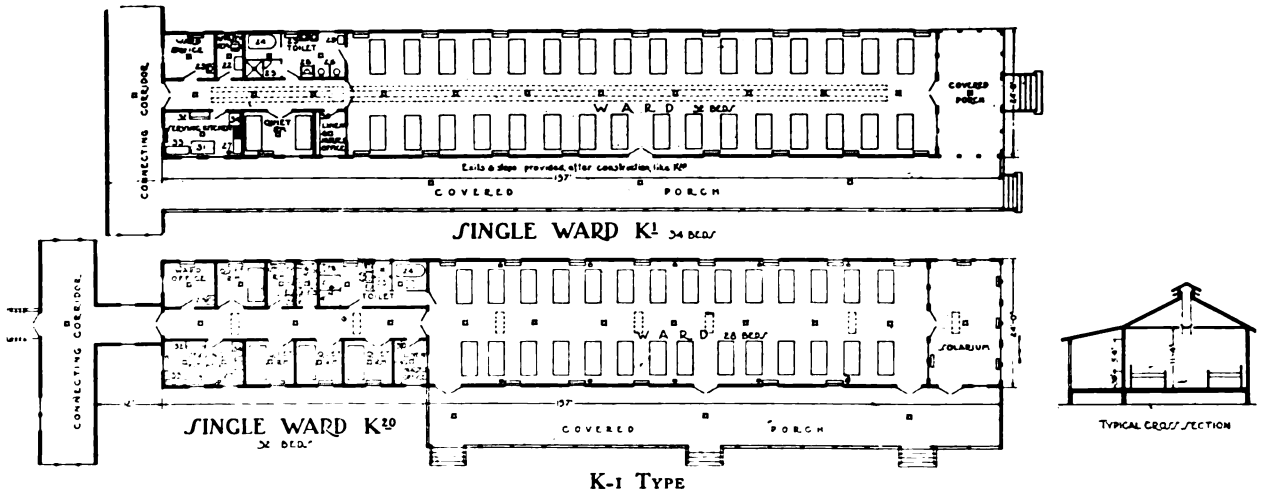
CHART OF THE ORGANIZATION OF THE POST-WAR COMMITTEE ON ARCHITECTURAL PRACTICE



TRAGEDY
Painted by Edith Magonigle for The Playhouse, Wilmington, Del.

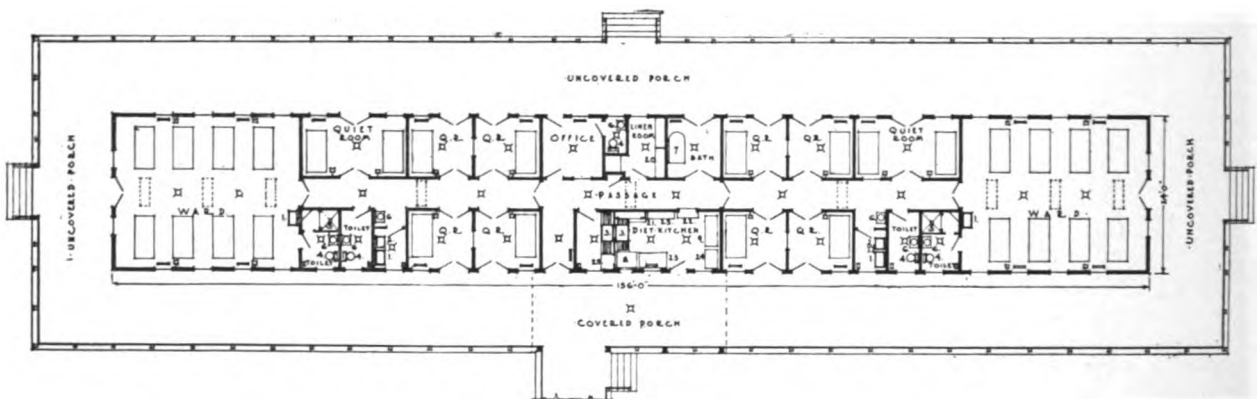
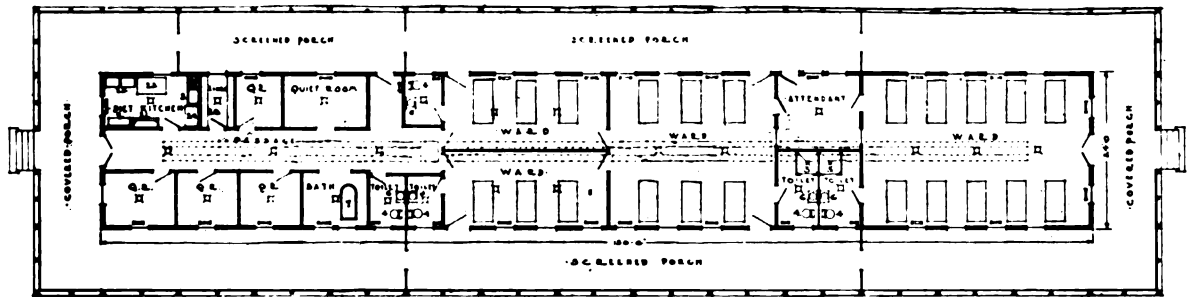


COMEDY
Painted by Edith Magonigle for The Playhouse, Wilmington, Del.



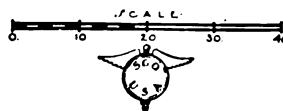
detail, but the protests were ignored and "41,000 beds were built of the K-1 type." Captain Kettell also should have explained that when the National Guard Camp Hospitals were built, the ward buildings were not sheathed on the inside, and the plumbing fixtures shown on the plans were omitted.

In the summer of 1918, as explained by Captain Kettell, it was determined to erect larger hospitals containing 2,500 to 4,000 beds, and the so-called Knox type of hospital, in two-story buildings, with wards containing 100 beds each, illustrated in the plan of Camp Mills (see page 533) was devised. This is, in its main lines, a rather ingenious

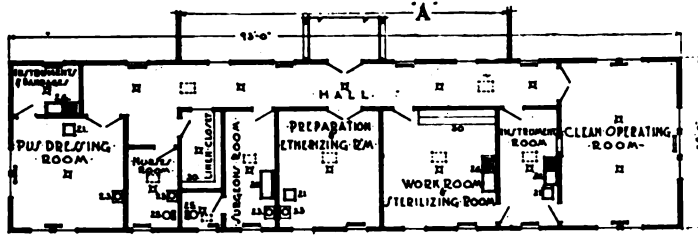


- MECHANICAL EQUIPMENT**
- 1 Siner
 - 23 Day Siner
 - 2 Water
 - 4 Water Closet
 - 2 Shower
 - 6 Laundry
 - 2 Bath Tub
 - 2 Dish Washer
 - 1 Electric Stove
 - 1 Ceiling Light

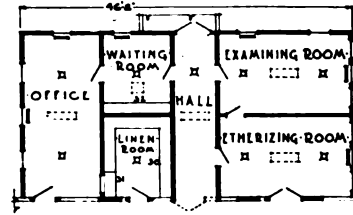
- MISCELLANEOUS EQUIPMENT**
- 20 Shelves
 - 21 Dresser
 - 22 Cabinet
 - 23 Table
 - 24 Ice Box
 - 25 Dish Rack
 - 26 Ceiling Light
 - 27 Wall
 - 28 Radiator
 - 29 Ceiling Ventilator



CORRESPONDENCE



(G) SURGICAL PAVILION



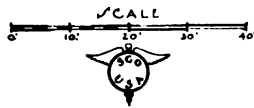
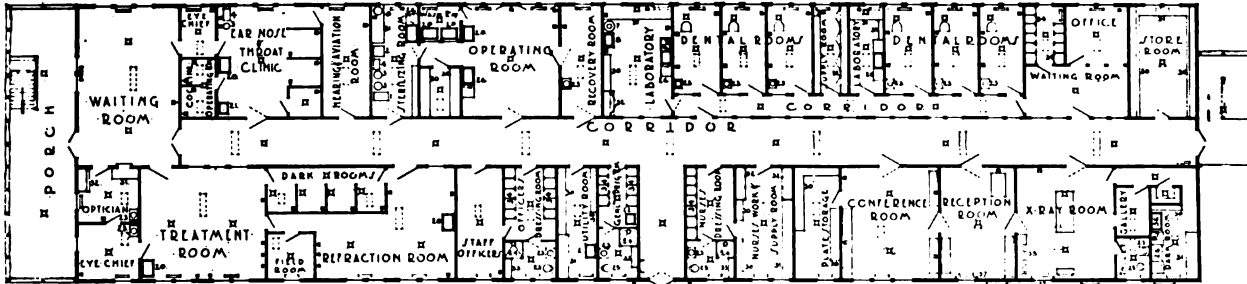
ADDITION TO G
LOCATED AT A

plan, inspired by the temporary office buildings erected in Washington in the vicinity of Seventh and B streets for various departments of the Army and Navy, with which many of the readers of the Journal are familiar. The arrangement of plan, eminently fitted for an office building, was unfortunately totally unsuitable for the care of the sick.

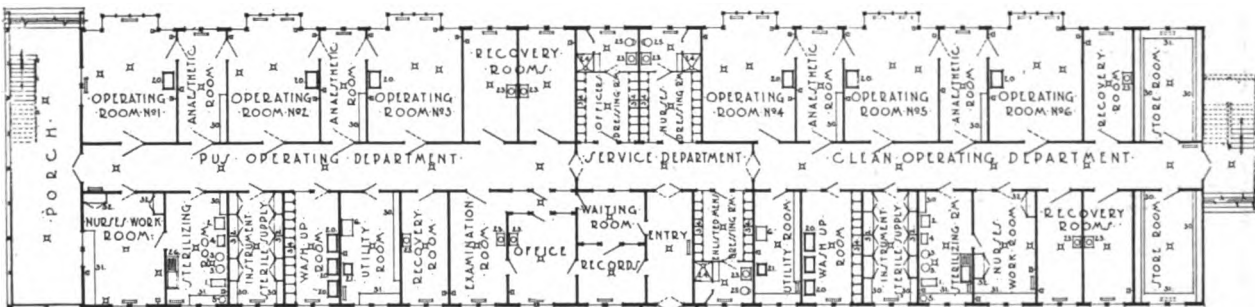
The placing of 100 beds in an open ward was, as Captain Kettell says, a radical innovation—at least for hospitals 3,000 miles from the battle front—and the use of such a type of ward for an embarkation hospital to house men not yet immune from contagious disease is indefensible. It

should be noted further that these 100-bed wards were 48 feet in width, with beds arranged in four rows, that the ceilings were but 11 feet 2 inches high, and that the window heads were dropped to 2 feet 4 inches below the ceiling.

The side porch, long since discarded in civil hospitals except in far southern climates, but retained in all climates by the Army, served to further reduce the amount of sunlight entering these wards, and as the buildings were two stories in height, there was no ceiling ventilation for the first floor wards. It is impossible to exaggerate the ingenuity shown in the bad planning of these buildings, both in the general conception and in every detail of execution.



PLAN OF SECOND FLOOR



- | | | |
|---|---|--|
| <p>SURGICAL EQUIPMENT</p> <ul style="list-style-type: none"> 1 Dressing Sterilizer 2 Utensil 3 Water 4 Instrument 5 Hot Plate 6 Blanket Warmer 7 Air Compressor 8 Sterilizer 9 Entry height in clear 11'-2" | <p>MECHANICAL EQUIPMENT</p> <ul style="list-style-type: none"> 10 Argon's Sink 11 Flushing Rim Top Sink 12 Top Sink 13 Laundry 14 Shower 15 Water Closet 16 Wash Sink with Drain Board 17 Ceiling Light to Wall Light 18 Radiator | <p>MISCELLANEOUS EQUIPMENT</p> <ul style="list-style-type: none"> 19 Shelf 20 Counter 21 Cabinet 22 Bench 23 Lockers 24 Tube Rack 25 Plate 26 Special Shade Box 27 Freiburg Ventilator 28 Ceiling |
|---|---|--|

PLAN OF FIRST FLOOR

(G) SURGICAL BUILDING FOR 2000-BED HOSPITAL

The so-called head house connecting the wards consisted of a corridor, with service and quiet rooms on either side. This corridor, as planned in the case of the hospital at Camp Mills, was 1,000 feet long without direct light or ventilation.

In October, 1918, a Committee on Army Hospital Plans, consisting of three architects, experts in hospital planning, was appointed by the Acting Secretary of War to examine and report on all plans being prepared in the Surgeon General's Office, and the first act of this committee was to protest against this Knox type ward plan. The then head of the hospital planning division of the Surgeon General's Office admitted to the committee that he did not consider this Knox type a good plan, that he had already given orders that no more should be built, and he assured the committee that no more would be built; but why was such an execrable design ever conceived or approved?

Criticism might also be made of the Isolation Wards M 1 and M, the lack of proper circulation in the former, and the lack of plumbing fixtures in the quiet rooms of both wards making them far below the accepted standards of civilian hospitals.

The Surgical Pavilion (G) with its operating room and "pus dressing room" at opposite ends of the building and the common sterilizing room and the surgeon's scrub-up room in contact with neither, is a masterpiece of poor planning. Captain Kettell failed to mention that, in the case of the National Guard Hospitals, the operating rooms were but nine feet high to the eaves, that no skylights were provided, and that as originally planned, these pavilions were without plumbing and unsheathed on the interior. The Surgical Building (G-12) for the Knox type of hospital is a very different building, but was only adopted in the summer of 1918, and the G-1 type was built in thirty-one of the thirty-two base hospitals, although protest was made against it in May, 1917.

In conclusion, Captain Kettell speaks of the constant communication between the designers of the Surgeon General's Office and the heads of the various departments of surgery, psychology, etc. If this communication existed, it is lamentable that no results whatever show in any of the earlier plans, with the possible exception of the laboratory and psychiatric wards, and that even up to the date of the armistice, the plans for general wards and contagious wards, the most important of all the elements of the hospital, show only a progress from bad to worse.

CHARLES BUTLER
EDWARD F. STEVENS.

To the Editor:

I agree fully with Mr. Butler and Mr. Stevens in their criticism of the claims made in the article on "Army Hospitals" which appeared in the October number of the Journal, and their further criticism of the various types of army hospitals, in which the commonly accepted principles of hospital orientation were ignored and which present many instances of bad planning.

RICHARD F. SCHMIDT.

[NOTE.—For the fuller information of our readers it should be added that Messrs. Butler, Stevens and Schmidt are all members of the American Institute of Architects. Mr. Butler was employed by the French Government in

the design of its war hospitals; Mr. Stevens, as well as Mr. Schmidt, are among our foremost authorities on hospital construction. Some of the drawings referred to in the criticisms are published herewith in order to facilitate references. The others may be found in the Journal for October.—EDITOR.]

The Relation Between Architectural Training and Military Art

To the Editor:

Perhaps a discussion on architectural training and the possibilities of its value in war may seem untimely when we all are not, I trust, trying to forget the war and its lessons, but striving to adjust ourselves with all our power to peace problems, yet many points on the relations of such training and military science seem to me worth putting down.

I have often been asked by engineer officers: "What are you, an architect and artist (*soi-disant*), doing in the Engineers?" I, however, had an irrefutable answer: "If you have studied your military textbooks at all, you, of course, know the constantly reiterated statement, 'War is an art and not a science.'" War, in these days, touches every phase of human existence, and so we can leave out the self-evident usefulness of the architect in the manifold building work necessary both at home and in the field. In the field work proper, I am discussing the average skilful and well-trained architect who knows all sides of his profession, and not the mere office designer.

Of my own particular branch of the service, I will only say that it was the consensus of opinion of the higher commands that the architects were the best camouffleurs. The reason for this was very simple. The qualities needed were, familiarity with and ability to handle men, constructive ingenuity in emergencies, artistic knowledge, and tact. The engineer could, as a rule, handle men, and had the constructive ability, but usually lacked the artistic knowledge. The artist had the artistic sense, but usually lacked the executive ability. Architectural education and experience covers all these points, and if, between client and contractor, an architect has not developed tact, the Lord help him.

The education and experience of the architect is a better training for General Staff work in the field than that of any other layman who puts on the uniform in time of war. History tells us of innumerable military engineers who were architects as well as artists, and I need only mention Leonardo da Vinci, Michael Angelo, and Benvenuto Cellini as the first designers of fortifications of their time.

In the different sections of the General Staff, 1, 2, 3, 4, 5, the qualities needed are: the power to visualize from the map or drawing, imagination, coördination of all the various necessary steps, and the ability to execute, through their subordinates, the completed plans. The first need, that of ability to correctly read and interpret or visualize a map or diagram quickly, is surprisingly uncommon among officers. I should be ashamed to tell you how many times I have had to tell officers where they were on the map. Yet how few clients we have who can

CORRESPONDENCE

read the drawings we make for them. But this is the very A, B, C of the architect, and he is immediately at home with any map or drawing. As to visualizing objects from the paper, that is his greatest asset; he visualizes even before he puts down a line, and continues to do so with every stroke or change he makes.

Imagination is, of course, a part of the same process, and the whole tendency of the architect's education and life is to cultivate it. Here also he has a great advantage over the average officer.

Coördination is of vital importance; the best-laid plan would avail absolutely nothing if the coördination of the various branches of the service, both as to time and space, were not properly made. If there is anything that is absolutely vital to the design and construction of a large building, it is coördination of work of every kind, and we practise it every day of our lives.

The plans and orders for a great offensive take as many words as the specifications for a state capitol, and would surprise the non-military man if he could read them through. They have a remarkable likeness to a specification, too, in their telling just what shall be done. I took, unofficially, the course with the first class of the General Staff College (I declined an official appointment to the Staff College later in order to continue my own work) and so am fairly familiar with these things.

Now, attacking a great problem in war is very similar to approaching a great problem in architecture. You have certain conditions which exist, and you have plans and maps of your site, and certain things to accomplish. Hear what Captain Budeke, a great authority of the German Army, and who is often quoted in English, has to say in regard to a military problem:

"By repeatedly and quietly reading the problem, paying due regard to the map in front of us, we gain, just as in focusing a telescope, a clearer and clearer conception of the situation.

"The longer we pore over the map, the clearer will be

our conception of the measures which the situation demands.

"And in this it is important to hold and consider carefully, that is, to follow out to their furthest effects, all the thoughts and ideas which come to us, often passing like lightning through our brains, and suggesting various lines of action.

"Often it is precisely these fleeting thoughts which lead us to the right path. But thoughts which are not fully thought out cannot have a decisive influence on our judgment and decision.

"Only by intense reflection is found, in the confusion, the Ariadne thread which will lead us from the maze.

"However, although attention to details is to be recommended, yet the larger points of view must not be lost in their consideration, a mistake often leading to false conclusions.

"It is rather our chief duty to find these main points, and attention to details is but a means to this end."

With hardly the change of a word, this might have been written by a professor of architecture to his class, and it is a striking demonstration of the analogy between the two arts.

In a striking lecture after the armistice, one of the highest officers of the French General Staff stated to American General Staff officers that, in the future, the greatest generals would be those who had the greatest knowledge of the world and its activities, and he advocated the freedom of the highest officers from troops and the military life for considerable periods, and their assiduous application to intellectual pursuits tending to develop imagination.

Our officers have not progressed so far as yet, and most of them would be profoundly astonished at what I have written, but there is a decided movement towards such things developing in the General Staff at the present time.

EVARTS TRACY,

Late Major, United States Army

The Canadian City Planning Conference

In giving my impressions of the conference on city planning, held jointly by the City Planning Institutes of Canada and the United States, in Ottawa, October 17 and 18, it is necessary to explain that the point of view is that of the visitor within the gates. It was that of an outsider, primarily interested in the value of the plan to the community and only mildly concerned as to the various standards, dimensions, and regulations incident to a scheme. While the papers read at the meeting were ably presented and were of very great interest, yet the major part of the two days was devoted to matters which appeared to me to be of importance secondary to the main idea, which is the use of the plan. In this frame of mind my comments have to do chiefly with those things which were left unsaid.

No one will openly contest the theory that in its very essence the city plan is intended to serve the interest of the people at large and only incidentally any particular group or individual. City planning consists in vitalizing

this proposition by the study and presentation of the physical plan and the ways and means of its execution.

The function of any plan, be it that of a town or a building, is to simplify circulation, not only by indicating the line of least resistance, but, what is of vastly greater significance, by seeking an arrangement in which movement is reduced to its lowest practicable terms. The problem as thus stated applies to a new scheme as well as to the heterogeneous accretion of buildings and streets in our established communities. It might be well to concentrate our attention on the latter, as it is of a more pressing nature and being vastly more difficult of solution is therefore of greater interest.

The arrangement of the great majority of our cities is based on a system of transportation which, compared to our present-day requirements, is slow-moving and of small carrying capacity. Urban population is grouped around one center, for it was unforeseen that the time would

arrive when a single meeting-place, no matter how spacious, could not accommodate the daily press of vehicles and human beings. The proper treatment of centers is the great modern problem of our cities. Under conditions of rapid growth a decentralization is the sole remedy for undue crowding. There comes a time in the evolution of a congested area when it can no longer be relieved by increasing the capacity of the highways which serve it. At this stage in its existence it becomes a saturated solution. This state of being commences when the total loss to the community due to the disadvantages of congestion balances the total gain to the community due to the concentration of business and living facilities. If it could be held at this point there might be no harm done, but as private ownership benefits abnormally in the first stages, at least, of overcrowding, any suggestion leading to the curtailment of profits is met with violent opposition. So in the great majority of cases the city planner has to be content with the feeble palliative of "improved" transit facilities or a new diagonal.

How should we deal with this phenomenon? Much as I was impressed by the intelligent discussion in the conference upon the capacity of arterial highways, I would have preferred to have been enlightened upon the capacity of the area which the highway is designed to serve. Why should diverging avenues be urged as a remedy for congestion when it is perfectly evident that what goes out must first have gone in. From the point of view of the plan, the terms "diverging" and "converging" are synonymous. The net result of widening an old or building a new street of this character is to increase the dimensions of the zone of suffocation. It allows the already dangerously high real estate values to be applied to a new ring of land. We are familiar with the expression "the gridiron plan gone crazy," but an evil of far greater menace to the welfare of our cities is the "diagonal running amuck."

The plan consisting of an endless repetition of rectangles is stupidity itself but only in a passive sense. It acts as a sieve and tends to separate effort into small and ineffectual units. But why waste time in talking about any other part of the street than its termini when they are the main sources of the trouble? The capacity of the interior terminus is strictly limited. A simile would be the street car, in which there always seems to be room for one more,

but the time finally arrives when the elastic limit is attained and the doors must be closed. Until we recognize this fact and bend our efforts to the increasing of the number of foci instead of the feeders we will have contributed but very little of real and lasting value to the advancement of city-planning science.

While recognizing the validity of this argument it may be objected to on the grounds of its impracticability. Now impractical is a formidable word, but one which must stand the common test of analysis before being accepted. It depends for its force upon the unspoken thought that speed is the essence of the contract—a most unwarranted assumption when we consider for whom the plan is proposed and for whom it is wrought. Certainly not for men of the present generation. As the time necessary for the execution of a large project is counted in decades, not single years, it is evident that we are building not for ourselves but for our children's children. When we shall have saddled upon them a quite unworkable scheme, so expensive in operation it will have to be entirely recast, what will be their verdict? It does not require a very exceptional degree of intellectual honesty to accurately forecast the judgment. There is not the shadow of a doubt but that the coming generations will condemn the selfishness of their grandfathers who valued their own immediate profits above the welfare of their descendants.

How can a city plan be executed unless the principle of public control of land value is admitted? An individual would not embark upon a large building scheme unless the land had first been secured by purchase or option, for fear that a speculative value would at once be attached to the site. In city planning, however, we are asked to violate this most elementary rule of business prudence and, as a consequence, our ideas are to a large degree unworkable. The scheme of a metropolitan project must be based upon a sound theory of zoning and eminent domain; otherwise, it becomes largely an advance notice for the benefit of the land speculator. Thus, as has already been pointed out, the study of the ways and means must have precedence.

I hope that my friends of the City Planning Institute will forgive my frankness, but it would seem to me that public interest, not to say confidence, can be enlisted only by the open discussion of the basic points at issue.

JOHN IRWIN BRIGHT.

Post-War Committee—An English Opinion

To the Editor:

I am pleased to respond to the honor you do me by inviting me to express my opinion upon this important problem, which is being considered by American architects.

As I know full well that pioneers are not usually regarded as prophets, it is with some timidity that I express my views to such an enlightened assembly, but I venture to think they may be applicable in America as well as in Britain.

It appears to be clear that there is something wrong in the hitherto accepted methods of architects which has

led, under the test of the recent Great War, to the neglect of architects and the consequent reflection upon the greatness of the arts.

Much has been written and suggested on both sides of the Atlantic about the cause and remedy, but, apparently, no very definite cause has been officially assigned and no panacea has been found or adopted. Yet, there is surely some sufficient cause and right remedy to be discovered. I venture, therefore, to express to you what has been disclosed to me very clearly and continuously during a practical and perhaps unique experience of about thirty-five years' practice of architectural work.

POST-WAR COMMITTEE—AN ENGLISH OPINION

Although there are some exceptional cases, there are, in my opinion, several pretty general shortcomings in the methods and the practice of architecture by architects which are perhaps in a lesser degree evident in America than in Britain.

Architecture is an art which has to meet the modern demands of the public as well as fulfil the behests of ancient traditions, and it is based upon anatomical science, and also finance, the dominator of all things earthly, without the consideration of which, in these modern times, the evolution of the art cannot advance satisfactorily.

Owing to the neglect by architects to embrace sufficiently scientific and financial considerations in relation to, in conjunction with, and as an integral part of the art of architecture, architects have been pretty generally slighted by the public, and this will tend toward the detriment of the art, if it be not sufficiently and promptly counteracted.

This state of things is also, in my opinion, probably due to the neglect by architects themselves to control architecture more fully by not entering sufficiently the portals of the Government, municipal and other controlling powers and taking their fair share in the direction of the affairs of citizenship, thus directing public opinion in the right and honest way in regard to affairs architectural and all that appertains thereto. It would doubtless not be congenial work for all artists, but good and suitable men could probably be found to do the work for which distinguished precedents exist. It is a clear duty born of citizenship, the fulfilment of which appears to me to be imperative if the best direction of art is to be obtained in the future.

The adoption within about the last half century of the practice of the art of architecture, untrammelled by the essential anatomical sciences and largely irrespective of financial considerations, has disintegrated the profession and alienated the public, and these appear to be the most fruitful causes of the lack of public support of architects and of public appreciation and patronage of the art of architecture, both in America and Britain.

I do not suggest that there is not a considerable amount of support and appreciation, but I submit that it is too limited and that it is needed more universally.

The remedies would appear to be, in the first place, frank acknowledgment of the shortcomings of many architects and their work, and the official and general adoption of remedial measures such as:

1. Complete control by the architect as designer, director, and supervisor of all the art, science, and finance connected with the building or structure, and that is what I venture to think the general public in America as well as in Britain seek, but often do so in vain.

2. Education of students fully and comprehensively in all the essential equipment including science and finance connected with architectural work. American architecture has reached a high standard, influenced by the study of the art, science, and finance as inculcated by the tuition of American students in the École des Beaux-Arts in Paris, which is probably the most successful architectural school

in the world. That tuition has proved effective in France for about a century past, and similar tuition would probably be efficient in the future world, with increased instruction in science, including certain so-called engineering work, and in financial essentials, all of which are inseparable from the practice of architectural art.

3. Stoppage of charlatans, insufficiently tutored students, municipal engineers, surveyors, and others from posing as architects, and thereby disgracing the art and discrediting architects. The general public would thus acquire confidence and learn that architects in the future, at least after a comparatively brief transition period, could control all the work and carry out the services required, including art, science, and finance, connected with the whole of the work of art from its inception to its completion; the whole work being based upon and executed in the future with honesty, sincerity and truth, without which no edifice can long endure but must soon disintegrate and fail.

4. Union of architects, their work, and kindred societies; also the official embracing of an architectural programme to include all subjects appertaining to architecture in order to attain one main ideal, teach the students, banish the charlatans, design and supervise to completion the work of art built by a contractor convert and lead public opinion, which will not be coerced but can be converted by the aid of the press.

It appears to me, notwithstanding some reactionary but probably temporary objectors, that a sufficient union of architects cannot be obtained without confining the practice of the art of architecture within a close profession with adequate state recognition, after acknowledging the fact that the art will not endure and progress sufficiently in any country in modern times by the work of a comparatively few architects. I conceive that this can only be done through the work of a large proportion of the younger men, particularly the students who should be all more fully equipped in all essentials of art, science, and finance in order to wage the future battle of the arts in this progressive and democratic world.

Art, like most other earthly things, is swayed by fashion, and I suggest that in future with all things architectural it should universally become fashionable "to be practical" as well as artistic, which need not, however, retard one iota the pursuit and attainment of beauty.

I have the honor to be, Sir,

Your obedient Servant,

JOHN MURRAY

F. R. I. B. A., M. S. A., F. S. I., Architect and Surveyor to the Commissioner of His Majesty's Woods, Forests and Land Revenues

The Inter-Professional Conference

The January Journal will report the conference held at Detroit on November 28-29, which will make, it is believed, the beginning of a concerted effort, by representatives of the professions, toward making professional service, as such, an independent factor in our social economy and not merely a marketable commodity.

British Housing Notes

Two New English Cities

To architects and lovers of architecture it would seem that nothing could be of greater interest than the news which comes from England about the building of two new cities. The first of these is, properly, a housing scheme identified with the metropolitan district of London. Some three thousand acres of land situated in districts joining London in and about Barking Town, Ilford, and Romford, at present largely used for market-gardening, will be acquired by the London County Council, which there proposes to establish a brand-new community, designed primarily to take care of overflow population from the city of London. £1,000,000 has been appropriated for the purchase of the land, and powers have been given to the Council to take it by compulsion if necessary.

This is the largest scheme yet developed under the new Housing and Town Planning Act. The project, as at present laid out, calls for the building of something over 20,000 houses, with accommodation for approximately 120,000 persons. It is expected that the project will require some five years from the date when the scheme has been approved by the Ministry of Health, to which body all such schemes must be submitted. In addition to this new community, the London County Council also has under consideration the building of some 9,000 houses additional. A scheme so comprehensive as this involves many complex factors. The area of land is particularly large—something over 5 square miles—and its transmission into a residential area will of necessity involve the improvement of transportation communication with the city of London. Under the provisions of the Housing Act the London County Council is not obliged to convert all of this land into building-sites but it may rent or lease the unused land for purposes of industry if deemed advisable. It is not beyond possibility that the garden-city principle may eventually become a part of this vast undertaking.

The Second Letchworth

The Garden Cities and Town Planning Magazine for October is entirely devoted to a second garden city, the prospectus for which has already been issued and the plans for which are now well under way. From the above-mentioned documents we quote as follows:

"The site is already secured; the first business is to study the lie of the land, to see how it may be drained and water provided. To provide the material for this study, in addition to what may be gained from actual familiarity with the site, a contour map is being prepared, using the ordnance data as a basis. Then a mineral survey will follow to ascertain the value of the soil.

The Industrial Area

"The most important thing of all is to settle where the main parts of the town are to be, and as in a garden city the efficient organization of the town for industry is

the primary consideration, the industrial area has to be settled first. This is determined by the character of the land (fairly level land being needed for factories), by the position of the railway, by the roads, by a reference to the general amenities of the district, by the character of the industry for which the town is to be designed, and by many other factors. After the factory area come the commercial, business, shopping, and residential areas, each having to be studied in its relation to the rest in order that the town may be seen functioning as a whole. In all this, the direction of the new main roads, and how they will fit in with the roads that already serve the country round, the position of the surrounding towns, Hertford, St. Albans, and Hitchin, and the high roads to London have all to be borne in mind. All these matters, together with many others, provide the basis for the preparation of the town plan.

The Town Plan

"That there should be a town plan, drawn up in its main lines before development begins, and setting the new town in its relation to the countryside, is the first essential element in the building of a garden city. The preparation of this plan is not a merely architectural matter; profound sociological questions arise, and the principles of industrial economics have to be brought to bear. Moreover, it is not a deal plan that is wanted, but a practical one, in which ways and means are carefully balanced. The demands that such a plan makes upon the imagination, the skill, the resource, the practical knowledge and the finest intellectual qualities of those who are responsible for it are immense. And even when it is done it will not be a final work, but will take further definition under the hands of the actual builders.

Construction

"After the plan comes the first work of construction. Certain roads will be made, the drainage system put in hand, and cottages erected for the workers on these jobs. The water-supply will be carried out, gas brought to the site, and an electricity supply provided. Sites will be laid out for houses for the managers and owners of works, sites for workmen's cottages (to be built under the Government scheme), sites equipped with railway sidings for works; the whole complex business will proceed together, until a community begins to be formed to take a hand in shaping its future. To begin with, the town will be in the rural districts of Welwyn and Hatfield, but as soon as a population gets together and the town has marks of independent life, a new urban authority will be formed.

"To build a new town is a great adventure, and those who take part in it will have experiences that they will value all their lives. The Second Garden City will be a town for good citizens, and those who can come to build there will do more than build houses and workshops, they will provide foundations for the life of the community and help to build up the State.

BRITISH HOUSING NOTES

Finances

"The financial aspect of the undertaking is important. In the first instance the public will be asked to find the capital for the cost of the land and the initial expenditure. As the estate shows a return as it stands, that money will not lack security; and there should be no difficulty in finding money for houses, factories and development in the ordinary way of business. The business-like handling of such an undertaking as this second garden city will result in first-rate security for capital."

In the Company's prospectus it is stated that:

"The enterprise will be conducted on sound business lines, and is believed to be capable of yielding a good return on the capital employed. The essence of the scheme is the conversion of agricultural land having a comparatively small value into urban land possessing a high value and producing building ground rents. Inasmuch as this process can be made profitable even in suburban situations where the original cost of the land is £400 to £2,000 per acre, it is obviously sound where the industrial and residential attractions are greater and the price of the land is comparatively negligible.

"The cost of the land to be acquired (nearly 3,000 acres) will be about £100,000. For the greater part of this land agreements have already been made at an average price of £32 5s. per acre, including much valuable timber. Before the war, development on modern site-planning lines cost about £250 per acre. Even assuming that it now costs £600 per acre (probably a high estimate) the garden city will have a considerable economic advantage over industrial areas nearer London. The land, including the initial expenses connected with the scheme, will have cost about £40 per acre, as against perhaps £400 to £1,000. So that, including development, building sites will cost only £640 per acre as compared with £1,000 to £1,600. Thus the new town can charge lower ground rents (for greater advantages) and yet obtain an ample increment for purposes of dividend, and after that for the general benefit of the local community.

"So many factors of the economic situation during the next few years are unknown that the Board is adverse to putting forward detailed estimates of the profits likely to accrue within any stated time, but it is of opinion that there will be no difficulty in meeting the proposed dividends. It should be noted that the existing income of the Estate shows a moderate return on the price paid for the land, and that this income will be maintained.

"It is important to note, also, that the security for the capital invested will continually increase with the development of the town and the creation of new ground rents. The strength of the financial position lies in the very low price at which the land has been secured, having regard to its favorable situation for early and successful development, and the imperative needs of the country for housing accommodation for all classes. Given careful and energetic management, the prospects of commercial success are assured, while the experiment cannot fail to be of great value to the community."

It would be an act of flagrant injustice to mention or to chronicle the birth of the second garden city without paying a tribute to Ebenezer Howard who was the founder

of the first garden city of Letchworth. "Letchworth came into being," says the *Garden Cities and Town Planning Magazine*, "because Mr. Howard had associated with him a group of keen and able men who were determined to put his idea to the test."

Is it not time for the United States to produce a group of "keen and able men" with faith and vision? The Letchworth principle embodies the remedy for all our industrial ills, and it is a pity that a nation so boastful of its progress is still unwilling to discuss the underlying philosophy that governs industrial life.

Relaxation of Building Codes

The Ministry of Health has issued a memorandum to local authorities calling attention to the powers which such authorities may exercise during the ensuing three years in the erection and use for human habitation of buildings of a kind which may not be permissible under existing by-laws, but which comply with regulations made by the Minister of Health.

The regulations have been framed in general terms so as to leave a wide discretion to local authorities in regard to the materials and methods of construction which may be permitted. The walls may be of any material and construction which give sufficient stability and reasonable protection against the weather. The requirements as to foundations and roofs have been placed at the minimum necessary to safeguard life and health.

It will be open to local authorities to permit the erection and use as dwellings of army huts and similar structures. They can also allow various more or less permanent types of building which do not comply with the present by-law.

Provisions for the Adjustment of Contract Prices

A feature of a model form of contract for the erection of houses, issued to local authorities by the Housing Department of the Ministry of Health, is the inclusion of provisions which will allow for the adjustment of the contract price in the event of changes in rates of labor or costs of materials during the currency of the contract.

The Ministry consider that such provisions should be regarded as a purely temporary measure, and in their opinion it is very desirable that the system of lump sum contracts formerly obtaining in the building trade should be reverted to at the earliest possible date. With this object in view these provisions are to be regarded as transitory provisions, and it is hoped that there may be a gradually increasing number of cases in which a contract can be let at a lump sum without the insertion of these provisions.

There is also a provision that trade union or the standard rate of wages in the district shall be paid, as agreed upon by the National Board of Conciliation for the Building Trades, and confirmed by the Government.

Ex-Soldiers' Homesteads

A garden village with 500 homesteads for ex-service men and their families is the war memorial scheme which the Surrey Land Settlement Committee is about to place before Croydon Borough Council. It is proposed to

acquire 800 acres, and build six- or eight-roomed houses on 20-rod plots, and erect small homesteads on plots of about 2 acres. The scheme is estimated at £400,000. The tenants will eventually, it is hoped, form a self-governing colony, with a credit bank, public hall, and recreation ground.

Wooden Houses for England

The controversy over wooden houses rages fiercely in the English press. From these discussions it seems apparent that the Government's plan for housing relief, based upon the building of good houses, is slowly breaking down by reason of the high cost of land, as well as the high prices prevailing in the building industry. Added to these factors there is the difficulty of making loans, and the municipalities which desire to proceed with approved housing schemes are making very slow progress.

In view of these conditions, one is not surprised that the authorities are turning to wooden houses as providing relief from high costs and also quicker relief from the housing shortage than could otherwise be obtained. There are also to be reckoned with the determined efforts of Canadian and American ready-cut house manufacturers, and their propaganda is no doubt designed to suit their business purposes.

Remodeling Old Houses

It is not generally known that the new British Housing Act has been made applicable to the remodeling of old houses. Municipalities are given power to take over such properties, in case their owners will not adapt them to meet the housing shortage, and the work would then fall under the financial provisions of the Housing Act just as though the municipalities built new houses.

Coincidentally, owners of old property may apply to the municipalities for a loan with which to remodel. They must furnish plans and estimates of cost, and may be lent up to one-half the value of the property. Repayments must be made at not less than half-yearly intervals, and the Ministry of Health suggests that the rate of interest be made $\frac{1}{2}$ per cent more than that paid by the community on its borrowings. It is also required under the Act that houses so converted must be let to workmen only, as England has discovered that people in good circumstances are quite willing to avail themselves of the houses built especially for workers. Such a condition is not unknown in the United States.

News Notes

State Societies

Numerous inquiries having been received as to the attitude of the Institute toward State Societies, we again record the fact that the last Convention explicitly instructed the Board of Directors to encourage the formation of such societies and to invite their coöperation with the Institute and to invite them to be represented at Conventions.

Michigan Architects Tender a Dinner to Professor Lorch

Under the auspices of the Michigan Chapter, the architects of that state tendered a dinner to Professor Emil Lorch, of the Department of Architecture of the University of Michigan, on the evening of November 1 last. The dinner was given in recognition of the professional career of Professor Lorch, and also in appreciation of his public service in many capacities. During the course of the evening there was launched a definite movement to make the College of Architecture of the University of Michigan a separate school (it is now included in the Department of Engineering), and many letters from prominent architects were read in approval and support of such a course.

Strand's £2,000,000 Building

The London press has given a good deal of space to "the permanent industrial exhibition" which is the official description of the vast £2,000,000 building which will be erected by the Bush Company, Limited, on the Strand Island site, often spoken of by commercial men as the finest business site in Europe.

The London County Council, after informing the Government of the company's proposals to secure the site, and having learnt that the Government was not contemplating the use of the site for their own purposes, have agreed to let it to the company for 99 years at a rent of £55,000 a year. The building will consist of only eight floors, and will contain many features more familiar to American than British manufacturers, such as central salerooms, stocked with goods, where buyers will be able to meet, conference rooms, libraries, commercial intelligence bureaus, and a club and restaurant. The object is to provide a central place where buyers in a hurry, who have not the time to search London for goods, can meet the manufacturers. A start will be made with the luxury trades, and small articles such as china, glass, leather goods, and boots will be included in the opening exhibition. Much regret is expressed that the site in question could not have been used for a truly English enterprise.

Developments in Public Works Construction

News comes from England that there has been a considerable adoption, on public work, of the system of letting contracts as evolved by the Ministry of Munitions. Under this system the client agrees to pay the costs expended by the contractor, as based upon an estimate prepared upon priced quantities under the quantity system obtaining in England. The client agrees to pay a fixed profit on this cost, giving the contractor an additional percentage of profit upon all he may save from the net cost agreed upon, but no extra profit upon extra cost exceeding the cost agreed except, of course, upon extras legitimately ordered.

NEWS NOTES

Now that the agitation for a Department of Public Works is actively under way in this country, it is perhaps pertinent to dwell upon the fact that in two recent important undertakings by the Government, namely, the assay office in New York City and the post office and custom house in Honolulu, only two bidders could be found for either job. The present unbusinesslike administration of public work finds little favor anywhere.

"Architects and Big Bridges"

Under the above title, there appeared in the *Emergency Bulletin of the Engineering News-Record*, the following:

"A surprising bridge-engineering situation has developed in Pittsburgh, where two large and difficult bridge problems, the 16th and 40th Street bridges, are in the course of design. One or both may include a steel arch of 500-foot span. While these structures obviously represent engineering responsibilities of magnitude, the County Commissioners (Allegheny County) have given full control of both design and construction to *architectural* firms. Early reports of this transaction seemed to indicate that the architects were merely consultants on esthetic features of the bridges, but official statements now show that the architects hold contracts for making plans and specifications and supervising construction on a fee of 6 per cent of the total cost.

"While it may be too late to alter this situation, since the contracts have been signed, the question raised is so fundamental as a matter of public policy that the advisability of the procedure must be called into question. Bridges of this magnitude are essentially engineering, not architectural, problems, and the interests of the public demand that they be placed in the hands of those thoroughly competent to take full responsibility for the technical adequacy of the structures. It is, moreover, a type of question in which there should be agreement between engineers and architects, for whatever fails to serve the public interest must, in the end, be detrimental.

"We do not doubt that the architects in question will endeavor to hire competent engineers to do the work for them, but the matter is one of principle. Shall the community turn over its big technical problems to those competent to answer for their adequate solution, or shall they turn them over to brokers?

"It is the duty of the engineers of Pittsburgh to inquire into this situation. They will want to be frank, too, with the architects of their city, for the problem passes beyond a case of pique to one branch of the constructive profession."

It seems very regrettable that such an exhibition of wounded pride and vanity should be permitted to masquerade as a noble effort toward protecting society. We do not believe that such opinions are shared by engineers of repute, but that they, as well as architects, regret these attempts to construct a chasm between the two professions.

It is evident to any simple-minded person that a bridge requires the services of architect and engineer. To deny this would be an affirmation of the belief that culture has no place in civic life, and that it must be sacrificed to brutal strength or utility. As for the rest of the argument advanced, could anything offer better proof of the desira-

bility of a permanent organization, such as that discussed at the Inter-Professional Conference in Detroit, on November 28-29? Instead of having the professions "dig themselves in," as is proposed in the above article, a group of larger-visioned men proposes to set up the means of genuine collaborative effort, to the end that our towns, states, and nation may be rescued from a competitive system based on profit and vanity, and placed on a basis where every technical service may be used for the best good of the public involved. It is to such an organization that we recommend this and any future similar articles.

Uniform Rules for Bids and Contracts

The San Francisco Chapter has been earnestly at work in considering the establishment of uniform rules for the submission of bids and the letting of contracts. It has been in consultation with the General Contractors' Association, and, as a result, it is now proposed to form a permanent organization representative of all the interests involved and which shall be charged with the formulation of rules governing the duties of all parties in the submission of bids and the letting of contracts. Mr. William Mooser is Chairman of the Committee for carrying on this work.

First Pan-American Congress of Architects and First Pan-American Exposition of Architecture

In conjunction with each other, the two events mentioned in the title will be inaugurated at Montevideo on March 1, 1920. American architects are invited to participate in the exposition and to forward drawings and photographs of their work. Students' work may also be admitted.

For the work of architects there have been established one or more Grand Prix d'Honneur with gold medals, First Mentions with silver medals, Second Mentions with silver medals, and Merit Diplomas; for students there are gold medals, silver medals, First Mentions and Merit Diplomas.

The award of all these prizes will be made by an international jury.

Any one desiring to exhibit should apply to the office of the Journal for a complete program.

The Sin of Ugliness

Speaking at a meeting in London, the Rev. Percy Dearmer said: "Nearly every church is full of bad art. You cannot attract people by offering them various forms of ugliness. It is Beauty that they want,—a fact that churches seem to overlook. There is hardly a church that the artist would not like to whitewash from top to bottom." We fear that his indictment contains more than a grain of truth, by and large.

Proposed French Housing Law

France has her housing difficulties. News come to hand of the proposed housing bill discussed by the Senate. The bill appears to be largely confined to dealing with

profiteering in rents. It is computed that, since 1912, Paris has increased its population by half a million, while houses have increased but little. From about 900,000 in 1902, there were 993,000 in 1912, and 1,039,000 in 1919. Rents have increased greatly, in some cases as much as 150 per cent, and it is said there is not an announcement of "Flat to Let" to be seen in the whole of Paris. On the contrary, there are numbers of notices to apprise the seeker that there is "Nothing to Let in the Building," in order to save the time of the homeless wanderers.

City Planning in Los Angeles

The October meeting of the Southern California Chapter brought forth the news that the City Council had been requested to take steps toward drafting a city-planning ordinance for the city; that the Chapter's President and Secretary had called upon the Mayor to reassure him of the Chapter's interest in the question and offering its services in connection with city-planning work.

City Planning Commission for Philadelphia

Under the terms of its new charter, the city of Philadelphia is permitted to create a city-planning commission. The Philadelphia Chapter has been actively at work to create a public sentiment in favor of such a commission, and, in connection with other societies similarly interested, held a large public meeting in November. As a result a committee has been secured to prepare an ordinance and to urge its acceptance by the city.

Building Contract Practice

The last meeting of the Illinois Society of Architects was devoted to a discussion of building contracts. There were speakers who advocated the lump-sum contract and others who were more or less in favor of the cost-plus-percentage, the fixed-fee-plus-cost, and separate contracts for the trades. The meeting apparently came to no decision on the question, but, in respect to certain conditions prevailing in Chicago, it unanimously passed the following resolution:

"That we deplore the present practice of many of the general contractors in Chicago who are doing work on a cost-plus-percentage basis, in paying large bonuses to building mechanics; that we believe that such practice is doing much to continue the unrest in the ranks of labor, and that we urge upon the Building Construction Employers' Association the utmost importance of immediately discontinuing this practice."

Architects and War Work

Captain Charles H. Alden, addressing the Washington State Chapter on the subject of his experiences in war work, both here and abroad, pointed out the many difficulties encountered in the effort to get things done. His experiences showed the need of reforms in the army, and in conclusion he called attention to the fact that during the war the architect was not given his rightful place in the army and that, as it now stands, the Engineering Corps is to take over entirely all construction, including the work

of the Construction Quartermaster. He voiced the opinion that the Institute would do well to take some steps to procure proper recognition for the architects. A committee was appointed to take up the matter.

Annual Convention of the Iowa Chapter

This event took place at Ottumwa, Iowa, on October 23 and 24. N. Max Dunning, Chairman of the Executive Council of the Post-War Committee, addressed the meeting on the subject of the Committee's work and program. The President of the Institute was unable to attend but sent a cordial message of greeting. The new officers elected were as follows: President, Allen H. Kimball; Secretary-Treasurer, Eugene H. Taylor.

Architectural Guilds

At the last meeting of the Washington State Chapter, the Committee on Relations of Draughtsmen to Architects presented the following recommendations; they were adopted by the Chapter:

"1. That the Architectural Guild, upon the adoption of a constitution and by-laws satisfactory to the Executive Committee of the Chapter, be given the privilege of the use of the sub-title 'affiliated with the Washington State Chapter of the A. I. A.,' such affiliation to remain in effect so long as the Guild upholds the principles and ideals of the A. I. A., or until the privilege is withdrawn by action of the Chapter.

"2. That such affiliation be further expressed by giving to the Guild the privilege of attending the annual meetings of the Chapter.

"3. That invitations be extended to the Guild to attend such other meetings of the Chapter as might prove of interest to the members, such invitation to be given to the Secretary of the Guild by the Secretary of the Chapter, by action of the Executive Committee.

"4. That a standing Committee of the Chapter be appointed to serve as a means of communication with the Guild through a like committee to be appointed by the Guild.

"5. That the Chapter, collectively and individually, encourage and contribute in every way possible to the educational efforts of the Guild along cultural lines.

"6. That one joint meeting of the Chapter and the Guild be arranged each year, at which subjects of mutual interest be discussed, and a spirit of mutual understanding and respect be fostered.

"7. That the Guild be regarded by the Chapter as a recruiting-ground for future Chapter members, and to that end every means possible be devised to acquaint the members of the Guild with the principles and ideals of the A. I. A."

England and Her Art Treasures

It seems rather curious that England should feel herself in danger of losing many of her art treasures, and yet the appeal of the National Art Collections Fund distinctly hints at such a contingency. Many estates are being broken up (indeed it is reported that more land has been sold in England in 1919 than during the last 500 years!), and there appears to be a feeling that many objects of art may

NEWS NOTES

be dispersed and lost to the country. It has been suggested that an embargo, similar in principle to that adopted by Italy, be laid upon works of art, but the suggestion is referred to as a "counsel of despair," since the probability is that it would only stimulate smuggling by whetting the appetite of conscienceless collectors.

The prices paid for pictures at the auction sales in London, and which set continuing high records, indicate that there is plenty of money available for art, but whether the purchasers are acting for English or foreign collectors does not always appear, although it is announced that the Romney portrait of the Misses Beckford, just sold at auction for above \$250,000, was bought for a New York purchaser.

"The Mocking Bird"

As indicative of the state of the arts and their popular appreciation, one will find it hard to believe that the paragraphs reprinted below were clipped from a weekly newspaper published within thirty miles of New York City, yet it is so. Only the names of persons and places are omitted:

"The Mocking Bird," a musical comedy will be produced at the Palace Theatre next Tuesday evening, Nov. 23rd. The production necessitates the action of about seventy-five persons in various assumption of characters. Among the cast will be not only gentlemen of dramatic ability, but ladies of beauty and venus-like of form and feature, while also being endowed with unusual theatrical talent. The situation is Colonial as to period; musical largely, and effectively scenic. The staging is noticeably picturesque, and is under the direction of Dr. ———. The necessity of a musical director of extraordinary ability to harmonize a production of the like, can be only partly imagined by theatre attendants. However, ——— audiences realize that no matter what betides, we have in our vicinity a musical director whose name—that of ————means musical erudition of extraordinary concentration.

To ———'s strenuousness, technique and arrangement of musical situations; with also the staging under the direction and close inspection of Dr. ———, whose work is, to our mind, almost the equal of professionalism, and in addition, the gathering together of each and all taking part in this presentation; mean that the Palace Theatre will be not only filled, but many will be unable to gain admittance, unless seats are secured quickly. A large orchestra under direction of Prof. ———, will harmonize. Many beautiful women, and a wonderfully clever performance, next Tuesday night at the Palace Theatre, with the commendable sensation that one is adding to the ——— Nurses' Fund; mean much enjoyment and great satisfaction. Remember, "The Mocking Bird" is not motion pictures, but superb acting and music.

Tickets may be had at theatre box office.

A Pertinent Question

How shall the professional spirit take courage to break through the network of defences now maintained by private initiative and put its knowledge and skill squarely at the public service? It is the height of folly to suppose that business, commerce, industry, labor, politics, or any other

group of material activities can rescue mankind from the morass in which it now flounders. Only truth, knowledge, science, used professionally as public service, can point the way.

President Holsman, of the Illinois Chapter, in an article in the *American Contractor*, deals with this hiatus in our civic life, and asks the same questions:

"How can the professional technical man apply his motive power and his mental processes to civic progress? First of all there must be created a professional class consciousness. The public must be conscious of the nature of the professional mind—the training it has been subjected to—and it must be conscious of the extent or numerical strength of the professional class. The professional class must be conscious of itself, and conscious of its ideals and its duty to the whole public, and it must lift higher and higher the banner of SERVICE and fix itself immovably upon the principle that public interest must have precedence over self interest." . . .

"An example of the use of the professional class for the public good may be seen in an analysis of the recent conference on industrial conditions in Washington. It was a comparatively easy matter for the President of the United States to summon to Washington men representative of the employee class. It was doubtless comparatively easy to find able representatives of the employer or capitalist class; but one must assume that it was very difficult to find representatives of the public or the middle class, for we find as representatives of the public such men as the head of the great organized steel industry and such men as the head of the oil monopoly attempting to function in a conference of national moment as representatives of a class having no prejudice for or against either the capitalist or the laborer. I venture the assertion that if the professional classes were one-half as well organized and visualized as the laboring class today is, or as the capitalist class has been for many years, it would not have been difficult to select from the professional men those who were able to weigh and balance contending principles of the opposing classes, to survey and evaluate the motives of action and reaction and to render a just balance between the two."

[Unfortunately, the absence of disinterested knowledge and science seems to be as conspicuous in the second conference as it was in the first.—EDITOR.]

Obituary

Charles F. Schweinfurth

(further notice later)

Hill C. Linthicum

Elected to the Institute in 1913

Died at Durham, N. C., October 6, 1919

Mr. Linthicum was born in Virginia in 1860, attended school at the Danville Military Academy, studied architecture in Baltimore, and entered the office of his father, Mr. W. H. Linthicum, at Durham, N. C., about 1883, practising continuously in that city up to his death. He had made an extensive study of school buildings, of which he had built about forty.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS, FIRE-PREVENTION, STRUCTURAL SERVICE

Roofing, continued

Prepared Roofings

Classification

Prepared roofings may be classified with respect to the nature of the bitumen used in their manufacture. Those in which coal-tar pitch is used are known as tar roofings, and those in which asphalt compounds are used are referred to as asphalt roofings. Seldom, if ever, are both of these bitumens used in the manufacture of one product. The saturant for the felt base and the material used for coating are compounds of the same bitumen, except in a very few instances where stearine coating is applied to asphalt-saturated felt. Prepared roofings may be classified also with respect to surface treatment or coating, and without regard to the nature of the bituminous material employed in their manufacture. The smooth-surfaced roofings are described by the generic, but improper term, "rubber" roofings, and sometimes by the term "skin-coat." The other class includes all those roofings with exposed surfaces composed of crushed slate or sand or other granular mineral matter. Bituminous shingles are cut from material of the latter class.

Manufacture

Felt Base. All prepared roofings, whether rolled or sheet, and all bituminous shingles, no matter what the character of the surface treatment, are manufactured with a saturated felt base. (For the character and properties of the felts used, see *Journal of the A. I. A.*, October, 1919, pages 461 and 462.) In some of the heavier multiple-ply roofings, a reinforcing fabric, usually burlap, is used, presumably to give the roof the tensile strength required to safeguard it against tearing or stretching in handling.

Saturation of Felt. The felt is saturated by passing it slowly through a tank containing the heated bitumen and then through rolls. (For the character of saturants see *Journal of the A. I. A.*, August, 1919, pages 376 to 378).

Weights and Plies. After the felt is saturated it is coated with bitumen on one or both sides, as the process may require, by passing it through rolls. The two thicknesses of felt for two-ply roofing, and three thicknesses, or three-ply, are then pressed together and cemented by the bituminous coatings. The felts used are of various thicknesses and weights, and while a two-ply roofing may be composed of two thicknesses of felt, it may be thinner and lighter than a single-ply roofing of another make or another brand. Examinations of cross-sections of the two- and three-ply roofings now produced indicate that the amount of bitumen used for cementing the layers of felt together is

the absolute minimum required for complete adhesion. The fact that the life of bituminous roofing, particularly of tar roofing, depends largely on the quantity of bitumen used, seems to be very generally neglected in the manufacture of prepared roofings. It is this requirement principally that has made five-ply built-up roofing the standard of good practice. Cross-sections of prepared roofings made twenty or more years ago, which have, in many instances, given good roof-protection for periods of fifteen to eighteen years, show substantial layers of bitumen separating the plies of felt.

Most of the slate and sand-coated roofings have the same felt base as the so-called two-ply smooth-surfaced roofings, but they appear much thicker than the two-ply roofings because the upper surface receives a heavy coating of bitumen into which the slate or sand is pressed. This coating must be heavy in order to hold a sufficient quantity of the surfacing material. (For further information on single and multiple-ply roofings, see *Journal of the A. I. A.*, August, 1919, page 376.)

Coating. The smooth-surfaced or "rubber" or "skin-coat" roofings, all except those in which asbestos felt is used, are coated with bitumen on the exposed or wearing surface. The single-ply material is generally coated with bitumen also on the under side. The bituminous coatings on the exposed surfaces are usually dusted with finely ground soapstone or talc to prevent sticking in the roll. For the same reason, the bituminous coating on the under surfaces of the single-ply material are often dusted with a very fine sand. The coating of sand on the under surface also prevents the roofing from adhering to the sheathing, a condition which in time results in breaks and leaks if the sheathing moves, and it usually does move to a greater or less extent.

Some few manufacturers claim that the surface coating for their better brands of prepared roofings is composed wholly or in part of "stearine gum," probably stearine pitch, an animal or vegetable by-product from the manufacture of candles. Stearine gum or pitch is less affected by sunlight than the bitumens and is less inflammable. Insufficient data are available to establish whether or not stearine gum, as a roofing material, retains its elasticity for longer periods than a carefully compounded asphalt or skilfully prepared coal-tar pitch.

Wax tailings, a by-product from the manufacture of paraffin, and rosin are also used in combination with asphalt. The rosin is used as a flux. It imparts brittleness to the finished product in proportion to the quantity used. Its use should be avoided.

STRUCTURAL SERVICE DEPARTMENT

Packing. The single- and two-ply prepared roofings, including those surfaced with a granulated mineral, are shipped in rolls containing enough material to cover net 100 square feet of roof surface. The three-ply roofings do not roll readily and are subject to damage, if rolled, from compression of the inner surface and stretching and rupturing of the outer surface. It is better practice to cut these heavier roofings into sheets and pack them in crates. The asbestos roofings, both two- and three-ply, are of necessity cut into sheets and crated for shipment.

The quantity of seam cement and nails required for laying each package of roofing are generally included in the package.

Manufacturers' Instructions. Directions for laying rolled prepared roofings, as issued by fifteen manufacturers, have been carefully examined and compared, with the expectation that such a study would disclose a fairly general agreement among manufacturers with respect to methods of application.

There were two points on which enlightenment was particularly desired: First, the means of overcoming the tendency of prepared roofings to wrinkle after application; and, second, the measures recommended to prevent the development of leaks about the nailings of lapped joints. Direct reference to wrinkling is made in only one of the printed directions. None of the fifteen manufacturers suggests adequate protection for nailings.

A brief summary of these directions as they relate to each in the process of laying will serve to indicate that there is no general agreement among manufacturers on many of the more important points in the problem of discovering the best method of application.

Direction of Strips. In his circular of instructions, one manufacturer says that on very steep roofs the strips should be laid parallel with the slope from ridge to eaves, and on other roofs across the slope, or parallel to the eaves. Two others state that the strips may be laid in either direction with equally satisfactory results on all but flat roofs, where the strips should be laid across the slope. One states that laying the strips parallel to the slope from ridge to eaves is a method that cannot be recommended. The other eleven make no distinction between the two methods.

Wrinkling. Only one manufacturer gives directions to overcome the characteristic tendency in prepared roofings to wrinkle after laying. He advises nailing one end of the strip and then grasping the other end in the hands, shaking and pulling it until it is straight and smooth. The strip is then tacked temporarily in place and the nailing proceeds from the fastened end.

Warming the material during cold weather before it is laid may have some effect in overcoming the tendency to wrinkle, because experience teaches that it does expand slightly under the effect of a hot sun. But very evidently the principal reason for warming the material is to prevent it from developing surface cracks when it is unrolled. Two of the manufacturers say that the material should be unrolled and allowed to lie flat for as long a period as possible, and not less than one hour, before it is finally laid in place. This is for the purpose of allowing it to straighten itself. One of the manufacturers advocating this precautionary measure states that the material should be laid only on "warm, sunshiny days." Three of the

circulars make no mention of the necessity of warming the material when it is to be laid during cold weather. The rest merely say that the rolls should be stored for one or more days in a warm room and taken on the roof only as needed.

Seams and Laps. All of the fifteen manufacturers agree that the edge laps between strips of roofing on sloping roofs should be 2 inches wide. Both 3- and 4-inch end laps are advocated. On flat roofs, two of the circulars state that the laps should be 6 inches wide and cemented with hot asphalt. Three others recommend 4-inch wide laps, and make no mention of the use of any special cement. The others make no mention of any special precautions to be taken in laying flat roof-coverings.

All of the directions state that the laps should be thoroughly cemented with cement provided for the purpose. All but the one who starts nailing at one end, state that the nailing should be begun at the middle of the strip and carried in both directions. All direct that the nails should be about 2-inch centers. One directs that the nails be staggered to avoid the possibility of splitting the sheathing. Six of the circulars direct that the seams and nail-heads be coated with cement. One directs that the same work be done with hot asphalt. Another is against coating the seams and nails. One advocates the use of tin caps and another says that they should not be used. Five make no reference to the coating of seams and nail-heads.

One manufacturer states that he furnishes special sherardized nails with his material. Another states that the nails used should be galvanized. All of the others state that large-headed nails should be used, but do not give any further description. The probable reason for slighting the subject of nails is that most manufacturers furnish nails with the roofing and it is to be assumed that nails so furnished would be used.

Two of the manufacturers state that their roofings should be painted with a coat of good asphalt paint at the end of the second year after laying and every three or four years thereafter. One states that his material should not be painted. The other thirteen make no mention of the need or absence of painting roofs after laying, although there is nothing in their advertising matter to indicate any essential differences in their products.

Flashings, etc. The printed directions for flashing roofs and for finishing at gutters, eaves, and ridges, and descriptive cuts accompanying them, show a very general agreement on method. The differences are confined to very minor points.

Application. Prepared roofings should be applied up and down the roof slope, from ridge to eaves, and the nails covered with wood strips backed or grooved on the under side and filled with roofing cement before they are nailed in place. The wood strips protect the nails as well as the bituminous cement with which they are filled against attack by the elements and sunlight. The bituminous cement, if not so protected, will fail in a relatively short time to seal the nailings against the penetration of moisture. When not so protected it usually shrinks and "alligators." The only reason why the application of roofing from ridge to eaves is advocated, is that the wood-cement-filled seam-strips can not be placed horizontally.

Some of the prepared roofings made a number of years ago had flaps along one edge which were cemented down

over the nailed seams. Such roofings may now be procurable but they are not among the large number that have been considered. Prepared roofings with this feature should be applied across the slope or parallel to the eaves.

It is better, when the roofing is applied across the slope, to begin at the ridge and work down, rather than the reverse, and contrary to the directions of the majority of manufacturers. Beginning at the ridge involves a little additional labor, but there is less likelihood of injury to the material, for it is not walked over and worked upon after laying.

All prepared roofing should be unrolled and allowed to straighten and stretch before it is applied to the roof, and in application every effort should be made to lay it flat and without wrinkles. If the nailing is begun in the middle of the sheet, the two ends should be pulled outward as the nailing proceeds.

General Observations. Prepared roofings with a wearing surface of granulated slate or sand or other mineral are generally longer lived than smooth-surfaced roofings made with the same felt and the same bitumen. This is so because the mineral surfacing protects the bitumen from the deteriorating effect of water and sunlight, and because a heavier coating of bitumen must be used in the manufacture of mineral-surfaced roofings than is required for the smooth-surfaced product.

The field of usefulness for prepared roofings is undoubtedly confined to sloping roofs. The life of prepared roofings, particularly the single- and two-ply, is short when used as deck-covering. As the material ages it becomes brittle, and every wrinkle is a danger spot. The nailings, too, are weaknesses, even when coated with cement or hot bitumen. As the roofing ages it shrinks and shows a distinct tendency to draw away from the nails. In flat roofs which flood in heavy rains or shed the water slowly because of wrinkling, this condition results in leaks. Sloping roofs shed water rapidly, and leaks from this cause do not seem to occur.

Tinned caps should not be used in connection with nailings. They require frequent painting to prevent corrosion. If caps are used they should consist of small pieces of the roofing material itself. It is doubtful whether the use of special metal nailing clips or cleats has any distinct advantage except that they make possible a material reduction in the number of nails used and, therefore, in the chances of leaks.

Unless the roofing is applied for the most temporary protection, all nails used should be sherardized or heavily galvanized.

Applying a coat of setting cement or hot bitumen over lapped seams and nailings, unless this is itself again protected, is a waste of money.

(To be continued)

Architectural Acoustics

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Of the many technical problems with which an architect is from time to time confronted, not the least important is that of architectural acoustics. In churches, courtrooms, lecture halls, and the great auditoriums of monumental buildings, it ranks equal in importance with lighting, heat-

ing, and ventilation. Strange to say, only within the past twenty years has there been developed a definite science applicable to the design and construction of buildings, as well as effective materials for correction and a technique of their installation.

It is remarkable that in no other field of technical knowledge have antiquated ideas yielded so slowly to oft-repeated experience. At last, however, through the results of scientific investigation, the useless stringing of wires is being discontinued, while the sounding-board, moderately useful at times, is not now considered an universal panacea, and simple ratio between length, breadth and height is no longer looked upon as an adequate basis for acoustical design.

Broadly, the subject of architectural acoustics may be divided into two parts: The transmission of sound through floors, walls, or other partitions into rooms situated apart from the source; and the phenomena arising within a given room or auditorium due entirely to factors of interior design and finish as affecting sound, either generated within the room or entering from without.

Sound-Transmission. The first of these divisions, that of sound-transmission, is but just beginning to receive scientific attention, and the amount of reliable data at hand is small. The problem of deadening walls or floors is quite as much a question of construction as of deafening materials. The importance of the former element has not been appreciated, while even in the case of materials themselves, trustworthy figures are lacking as to their efficiency.

The common practice in the past seems to have been to design a material with especial reference to its heat-insulating qualities and then arbitrarily to assume corresponding properties for sound-insulation, an assumption wholly unjustifiable both in theory and practice. Such success as may have been attained in actual installations is to be attributed to practical experience in work of this character, which has shown some of the pitfalls to be avoided, rather than to definite and exact information. In the present state of the subject, no one can predict with assurance the degree of efficiency to be obtained from any given form of construction or material. Research is, however, progressing along these lines, and the time is doubtless not far distant when at least the principal factors in the problem will be capable of analysis.

Auditorium Acoustics. In marked contrast to the uncertainty surrounding the transmission problem, is the definiteness attaching to the other great division of architectural acoustics, that of the so-called internal acoustics of an auditorium. In this field, much careful scientific investigation has been done, notably by the late Prof. Wallace C. Sabine, of Harvard University, which merits thoughtful consideration by all designers or owners of large auditoriums. Sabine's researches have been published from time to time in the architectural and engineering press and have been supplemented by the work of Jaeger and others. They form the basis of all modern practice. The result has been to make possible not only the correction of existent auditoriums but also the design and construction of new ones in a manner such as to obviate all difficulties from the outset.

While much of the success to be attained in this direction must of necessity be a matter of expert consideration and advice, on account of the complexity and inter-rela-

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tion of the various phenomena involved, yet the various factors entering into the problem should be a matter of common knowledge in order that there may be a due realization of their importance and possibilities of control.

The phenomena influencing the acoustics of an auditorium may be classified under the heads of reverberation, echo, resonance, and interference, and these must be studied with regard to their effects upon the distinctness and loudness of speech, and the tonal quality of music. As is to be expected, they are not entirely independent one of another; nor are they wholly unmitigated evils in themselves, their presence to a limited extent often being necessary and desirable if not carried to an extreme. The essential factors which influence and control them are the size and shape of the chamber, the contour of the interior surfaces, the nature of the construction and finish, the amount and kind of furnishing and the number of persons present, in so far as these factors affect the reflection, diffraction, and absorption of sound. Refraction, caused by currents of air of different densities arising from the heating and ventilating, may conceivably become a factor, but has been shown to be negligible under almost all circumstances.

Reverberation. The most common source of trouble is reverberation, more so today than formerly, owing to modern fireproof construction. In the technical sense, reverberation signifies the prolongation of a sound by its multiple reflection from surface to surface before its energy is sufficiently absorbed to become inaudible. Since the average sound must be reduced approximately to one-millionth of its original intensity before it reaches the limit of audibility, and since such a sound once produced in a bare room loses but from 2 to 4 per cent of its energy at each reflection, it is evident that such a sound must be reflected several hundred times before it becomes inaudible. Since this process consumes time, owing to the finite velocity of propagation, the sound is prolonged for a period of several seconds after the original source has ceased to emit energy.

The period of reverberation is evidently inversely proportional to the absorbing power of the room, and directly proportional to the size, since the distance traveled by the sound-wave between reflections is greater the larger the room. Its effect, if present in excessive amount, is, as noted, to prolong every sound to such an extent as to cause an overlapping and blurring which is especially distressing in the case of speech. For this reason, in an auditorium intended for speaking alone, it should be reduced as far as is consistent with the carrying power of the sound. It is important to bear in mind, however, that as the reverberation is reduced, the loudness is diminished in very nearly the same ratio, so that there is necessarily a limit to the amount of permissible absorption. In the case of an auditorium used for music, a greater amount of reverberation is desirable than in one used for speaking only, in order that the overtones may not be obliterated (high pitches being more readily absorbed than low) and the quality of tone destroyed. The time of decay of a sound can be calculated with a considerable degree of precision, and the proper design or treatment laid out which will reduce the reverberation to the amount best suited for the room under consideration.

The amount of reverberation can be controlled in various ways. As already shown, it decreases with the size and height of the room, other factors remaining constant. It

is also diminished by the presence of recesses or balconies designed to hold a number of people or heavily upholstered seats. Draperies, carpets, furniture, and upholstery are all effective in proportion to their absorbing power, lined and heavy materials being naturally much more efficient than light and thin ones. The clothing of an audience is an important factor, being nearly totally absorptive of sound, and many an auditorium which is exceedingly bad when empty is entirely satisfactory when filled with people. Oftentimes, architectural or other considerations limit the design or furnishings so that a correct condition is not attained, no matter what the number in attendance. Under such circumstances, recourse must be had to a modification of the materials used as an interior finish.

Corrective Materials. The most common method of producing a sufficient degree of absorption is to place upon portions of the walls or ceiling a certain amount of felt of an extent so chosen as to provide the requisite absorbing power for sound. There are various kinds of felt on the market, but, of these, two have been found to be especially suited to this class of work. One is a yellow jute felt such as is used for saddle lining, and the other is a special type of hair felt with gauze reinforcement and freed from the usual impurities found in cattle hair. Both of these materials are efficient absorbers of sound. As in all substances, the degree of absorption varies with the pitch of the sound. Both grades carry a low percentage of oil, are durable, vermin-proof and non-inflammable, a combination of qualities in conjunction with their high absorbing power which is not to be found in most other felt and which, therefore, renders them particularly suitable for acoustical requirements.

Such surfaces as receive the felt treatment must afterward be covered and protected with a decorative fabric or membrane, and this fabric must be chosen with care in order that it may not too greatly detract from the absorbing power of the felt beneath. The use of a painted membrane or simply a dyed cloth is an important question as the absorbing power of the treatment depends on this factor both in absolute amount and variation with the pitch. Ordinary paints diminish the absorption considerably but special fabric coatings have been devised which affect it only to a slight extent. In many cases, beautiful effects can be obtained by covering the felt with tapestry hangings or painted cloth panels of similar design, such as were used in the Little Theatre of New York and the great hall of the Harvard Club of Boston. In all cases the form and manner of decoration must be studied with relation to the architectural and acoustical requirements of the individual problem.

The location of treatment with such absorbing materials is of prime importance, not only because their efficiency in reducing reverberation depends on their receiving the major portion of the reflected waves of sound, but also on account of certain phenomena of localized effect to be discussed presently. A careful study is therefore necessary in all cases to determine the extent and location of those areas best suited to an effective treatment, both from an acoustical and an architectural standpoint.

An important contribution has recently been made to acoustical science in the development of two patent materials of structural character suitable for the interior finish of new buildings and having a high degree of absorp-

tion comparable in efficiency to felt of equal thickness. One is a ceramic tile and the other is an artificial stone. Both are manufactured in such a way as to produce intercommunicating pores of uniform size which give the maximum sound absorption. These materials are not plastic, but must be moulded and set in mortar as a masonry finish. They are especially adapted to tile arch construction, and on account of their combination of acoustical, fireproof, and structural qualities furnish new and useful possibilities in architectural design and construction.

Sounding-Boards. The question is sometimes asked as to the value of a sounding-board in improving acoustical conditions. Such a device, if properly designed and placed, causes a slight reduction in the amount of reverberation when a speaker stands beneath it, as it casts a certain amount of sound shadow on the ceiling, thus confining the sound in some degree to the lower portion of the auditorium. In this way by intensifying the sound reaching the audience, it has its maximum effect, rather than in the slight reduction in reverberation. The best form of sounding-board is a plane surface, hung horizontally near the speaker's head, and of as large extent as is consistent with appearance, the object being to subtend as large an angle as possible at the speaker's mouth. The use of parabolic sounding-boards is to be deplored, as they not only produce unpleasant focusing effects but are also most unsightly. In any case, the slight advantage to be gained by the use of a sounding-board hardly compensates for its expense and appearance.

Effects of Reverberation. The phenomenon of reverberation, besides causing overlapping of syllables with consequent blurring, also prolongs and intensifies any sounds entering from outside or caused by shuffling of feet, coughing, or general restlessness on the part of an audience. The noise from such sources may, in a reverberant room, be entirely sufficient to obliterate a speaker's voice. This is another reason for reducing the reverberation, even though under quiet conditions the speaker can be heard with a fair degree of comfort.

In the case of offices and banking-rooms, especially those of modern construction, the accumulation of sound energy, due to the reverberation of noises from typewriters, adding machines, telephone bells and the like, is so great as not only to be annoying but actually responsible for nervous fatigue and loss of efficiency of the employees. The same phenomenon is also to be observed in restaurants, corridors of public buildings, and similar places. An astonishing degree of quiet can be produced in all such cases by suitable absorptive treatment. Not only is the sound generated in such rooms lessened in intensity to a marked degree, but also that coming through doors and windows, such as the noise of traffic. A few decades ago such problems commanded but little attention, but modern office machinery and the hard and non-absorptive materials used in fireproof construction have conspired to make the ordinary business office almost as noisy as the proverbial boiler-shop. The increase in errors and the loss of efficiency on the part of the clerical forces due to this nerve-shattering racket are facts now being considered by the welfare departments of many of the most progressive business houses.

Echo. While reverberation is doubtless the most frequent and easily recognized acoustical defect, yet there are

other phenomena which may be quite as troublesome, chief among these being echo and interference.

Echo is due to reflection from those surfaces whose contour and arrangement are such as to bring the sound-waves to a focus. If the source of sound is short and sharp, and if the difference in path between the reflected and direct waves is sufficiently great, the image produced by the reflected wave appears as a distinct repetition of the original sound. If, however, the difference of path is such that the direct and reflected waves are not separated but overlap on reaching the ear, or if the contour of the reflecting surfaces is such as to produce a blurred and not a sharp focus, confusion is created at that point and hearing made difficult. Such effects are purely local in their character and are not general throughout the auditorium as in the case of reverberation. They, in common with true interference phenomena, are responsible for the "dead spots" of which complaints are so often heard.

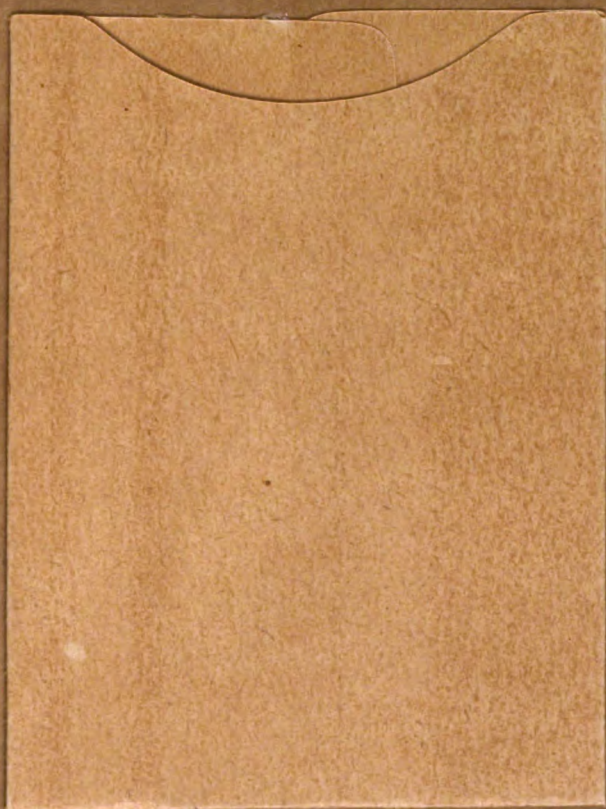
Echo of both types is caused in a large degree by curved surfaces such as domes, vaults, coves, pendentives, and warped areas. It can often be eliminated by due care in design, either by proper choice of curvature or by deep coffering. Sometimes a special form of absorptive treatment becomes necessary, the absorbent areas being so distributed as to produce half-wave phase differences between different portions of the reflected wave, thus causing destructive interference at the focal point.

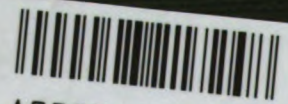
Resonance and Interference. Distinct from the reflection phenomena thus far considered, there exist more complex sources of difficulty which may, in general, be classed under the heads of resonance and interference. By resonance we mean the sympathetic vibration of the body of air within a room in response to some definite pitch. Its effect is to magnify the intensity of the given sound, so that the latter is thrown into relief against all other tonalities, thus producing an unbalanced effect on musical values. It is frequently encountered in organ chambers, and sometimes even in the auditoriums themselves.

A more frequent source of trouble is to be found in difficulties arising from interference. When a sustained tone of constant pitch is produced in a room, the waves reflected from various surfaces meet one another and the oncoming wave in various phase relations, producing points of maximum or minimum loudness, according as the waves meet in the same or opposite phases. Such regions may be readily observed in a church by walking about the auditorium while a single note is sustained on the organ. The points of maximum loudness will shift their location as the pitch of the note is changed, and this becomes an important factor for consideration in the proper voicing of an organ. Such effects produce, as a rule, but little disturbance for speech, but may be very disturbing for music whenever tones are sustained for more than one-tenth of a second. The effects are complex and require individual study in every case which arises.

In résumé, the acoustical quality of an auditorium depends on shape, size, and material. If two of these three factors are determined, the desired acoustical result can be secured only by correspondingly adapting the third. In the completed building, or with plans in which the form is fully determined by other considerations, the adjustment must be by the material, its quality, and its efficient position.

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