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Industrial Section

July, 1917
# Journal of the American Institute of Architects

## Vol. V  July, 1917  Number 7

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July, 1917
THE AMERICAN INSTITUTE OF ARCHITECTS
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LOWER BROADWAY, NEW YORK CITY
Shadows and Straws

TO THOSE WHO SEEK in terms of common understanding the relation of life to art, and, more especially of the relation of architecture to things social, economic, political; to those who would penetrate that ceaseless interplay of evolutionary forces and reach the source of that perpetual unrest which makes us wonder in what manner there shall be born an architectural development in this country such as shall justify our hopes and reward our labors; to those who can see beyond our crude democracy, vision the ultimate ripening of its liberative forces, and reach "And you, American artist, when are you free? Is it when you produce the things that give pleasure to the beholder? Is pleasure the be all and end all of your art? Or is it when you shall so penetrate the mind of the American people as to express their artistic response to life so distinctively and articulately that they will acknowledge your creation as their very own?" "And a people is a free people when all the different social groups or vocational groups of which it is the integrated whole express themselves in this manner, mutually reacting upon one another, and when in each group every member of it shall realize some mental gift unlike the rest. A free people is not one which is released from the incubus of autocrats. That is only the first step. A free people is not one in which strong individuals thrive parasitically at the expense of the weak. It is not one in which merely equal opportunity is afforded to all in the race for material well-being. A free people is one in which the inmost gifts, even of the lowliest, are released, in which the deepest, noblest energies of all circulate unhindered enriching as they go out, enriched as they return,—the life of each swelling the surrounding tide of life, and lifted up by the refuence of the tide. This, as I conceive it, is liberty, the liberation of what is best in each. This is freedom, the free flow of life into life. This is ideal democracy."

THE INTERNATIONAL CONGRESS of Architects was to have been held in Petrograd in the spring of 1915. It gave great promise of being the most interesting of events, when the war intervened and ended all plans. In December, 1916, a small group of Institute members addressed a message to Monsieur J. M. Poupinel, the able and devoted Secretary of the Permanent Committee of the International Congress, at Paris, in which they
expressed their appreciation of the enjoyment they had derived from the several congresses held during the past, and in which they also ventured the hope that a speedy termination of the war might clear the way for another reunion of the delegates representing the component parts of the Congress.

In reply to this message there has been received through Mr. George Oakley Totten, Jr., Secretary of the American Section of the Congress, the letter which here follows:


*Messieurs et éminents Confrères,

Nous avons éprouvé une réelle émotion en lisant dans votre lettre du 6 Décembre 1916 votre satisfaction lorsque vous évoquez les souvenirs de vos différents séjours en Europe et de l'accueil que vous avez toujours reçu de vos confrères et amis de France, la République-Sœur.

Votre juste appréciation des efforts de la France, de ses sacrifices, de son énergie à défendre la Civilisation et l'Humanité contre la barbarie nous touche profondément; elle nous encourage dans notre lutte pour le Droit et la Justice égale pour les grandes comme pour les petites nations.

Les États-Unis d'Amérique devaient comprendre ces nobles sentiments; ils l'ont prouvé dès le début par l'ampleur de leur beau geste en faveur des innocentes victimes de cette guerre cruelle et perverse, par leur persévérante générosité pour les humbles en détresse.

De cela nous vous garderons une gratitude éternelle.

Mais quand avec la Victoire triompheront le Droit, la Justice, la Loyauté; lorsque nous serons à la veille de reprendre nos paisibles travaux, n'aurons-nous pas à juger si ceux qui ont transformé tant de merveilles en des morceaux de ruines sont dignes de rester parmi nous qui nous sommes donné la tâche d'entretenir avec un soin dévoué, faute de mieux, l'ampleur de leur beau geste en faveur des innocentes victimes de cette guerre cruelle et pervers.

Puissons-nous, comme vous les souhaitez, nous réunir encore bientôt et entre amis comprenant la Civilisation de la même façon, pour étudier et résoudre ensemble les problèmes de notre Art si cruellement outragé par nos ennemis mais si noblement et passionément aimé de vos amis et compagnons de travail soussignés.


LOUIS BONNIER, Inspecteur général des Services techniques et de l'esthétique de la Préfecture de la Seine, Membre du Conseil d'Hygiène publique de la Préfecture de Police.

J. MAURICE POUPINEL, Vice-Président de l'Association littéraire et artistique internationale, Secrétaire général du Congrès international d'Architectes, 1887-1900-1904-1906-1911.


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ALFRED BESNARD, Expert au Tribunal de la Seine, Maire de XVIIIe Arrondissement de Paris.

IN THE STUDY OF city planning from a very elementary standpoint the members of a New York City high school class were asked to write a brief article on their city. Of those submitted, the following strikes such a human note that we think it could be accepted as evidence that students of educational methods might gain some valuable insight by encouraging a fearless expression of opinion from those who form the subject of their experiments. It also offers stout support for the theory that a knowledge of what does or does not produce good architecture is more closely related to the questionings of youthful minds than to the endeavor later to engrain the missing bud by means of a lecture-course at college.

"I have tried to reestablish New York City in the most practical way I could, but I see now that I am not, as most high school students are, quite ignorant of the vital construction of the city. We know high and impressive buildings of offices are in lower Manhattan; we know quite a good deal about the man-made palisade on our side of the river, along the rural Riverside Drive (nature manifests itself in fits and starts in our town) and also we know where Central Park and Houston Street are, but there our puny knowledge ends.

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SHADOWS AND STRAWS

"How can anyone who has spent one's life being present in an English class, riding three subways, eating, reading monotonous Shakespearian plays, and attending birthday parties occasionally—how can they be expected to say anything about the construction of a tremendous institution that has them crawling on it in one little corner, like so many fleas behind the ear of a dog.

"So far I need no apologies, for it is facts that I state. But what I need to apologize for is our neglect of being fit to talk about the construction of this tremendous institution which is composed of many millions of people who attend birthday parties.

"What logic is there in a department of a school giving a bunch of— a problem for which they have never been prepared? Do you think there will be a response worthy of even the poorest sort of factory hand, or the "runtest" little bartender in the most filthy saloon past the bridge? Believe me, there won't. We're a group of the most unoriginal liars, though we don't mean to be. All we can say about our city, outside of a few quotations from some socialistic novel we read, or an economic essay in a newspaper, is a lot of drivel—-we're students.

"Why aren't we sent on errands to the offices, why aren't we encouraged to go down to the Bowery and be some socialistic novel we read, or an economic essay in a newspaper, is a lot of drivel—-we're tremendous institution that has them crawling on it in one little corner, like so many fleas behind the ear of a dog.

The War Department's Cantonment Plans

There will be sixteen cantonments constructed in various parts of the country.

These camps will each consist of one division, plus certain additional units, and will aggregate from 35,000 to 45,000 men in each case. A division consists of 9 infantry regiments, divided into 3 brigades, 1 brigade of light artillery, consisting of 3 regiments, 1 regiment of cavalry which will be organized like an infantry regiment, 1 regiment of engineers, 1 aëro squadron and 1 field signal battery. The additional units will vary at the different camps and will consist of heavy artillery regiments, additional infantry regiments, balloon companies and field telegraph battalions. Infantry regiments are composed of 12 companies at 200 men each, 1 machine gun company of 200 men, and smaller organizations, known as headquarters and supply companies and medical detachments, attached to the regiments. Artillery regiments are made up of 6 batteries, each with headquarters and supply companies, and engineer regiments are made of 6 companies with headquarters and supply companies. The battery consists of 190 men. The engineer company consists of 164 men.

The barracks for companies and batteries will be two stories in height, with the mess hall and kitchen located on the first floor, and with dormitories on the balance of the first floor and the second floor. Small detachments will be housed in one-story barracks, as will the officers. The officers for a regiment are housed in groups, depending on the size of the organization, which means that from 8 to 15 officers will be in each building.

It is the intention of the Government to erect, as soon as funds become available, a post exchange building for the use of each regiment, which will contain a small restaurant and a small store for the sale of small wares, soda-water, ice-cream, etc.

The Y. M. C. A. is providing for the use of each regiment an assembly building, where men will be provided with writing materials, magazines and books, and where religious meetings, entertainments, and lectures will be given. The Y. M. C. A. is also planning to provide in connection with each division cantonment a large auditorium or assembly hall where more extensive entertainments, religious services, etc., can be held.

The construction of stables for the requisite horses and mules will be started as soon as the construction of the necessary buildings for housing the men has been completed. Stables are, in general, placed in the rear of the living quarters, and, so far as possible, in the direction away from the prevailing summer winds, so that such flies as may develop will be blown away from and not into the quarters of the men.

The Quartermaster's Department in providing quarters for troops on the Mexican border had worked up a system of houses consisting entirely of one-story buildings. In completing plans for the present cantonments the fact developed that this arrangement would require too much ground-space, and, coupled with the fact that the various units had been largely increased in size, made it necessary to adopt the two-story barracks in the interest of economy.

Lavatories will be provided for each organization, fitted with shower-baths and other necessary fixtures. The shower-baths will be provided with hot and cold water, and, in general, the toilet facilities will be practically as good as would be provided in connection with permanent barracks at army posts.

The hospital plant in each case will be placed to the best advantage under the conditions of each group, and the location is not determined by the typical layouts.

The buildings are all constructed substantially with frames of wooden studding and covered with boards. The windows are of good size and ample in number.

It is difficult to grasp the great scale of these cantonments. They will occupy from 900 to 1,200 acres each, and when the units are arranged in one straight line, as
they will be in some localities, they occupy a strip of ground about one-third of a mile wide and nearly 2½ miles long! Owing to the different topography of the various sites, the units will be arranged in different ways, varying from the straight-line plan and the U-shaped plan, as shown in the illustration, to the S-shaped and figure 8-shaped plans, it being essential that the principal street and parallel service street, on both of which the units are "threaded," have as easy a grade as possible. The sites for all have now been made public.

Messrs. George B. Ford, Charles Butler, J. Otis Post, Woodruff Leeming and other members of the American Institute of Architects acted as advisors in the planning of the cantonments and individual buildings of which they are composed.
The Organization of the Architectural Profession

By SIDNEY WEBB, LL.B.
Professor of Public Administration in the University of London (School of Economics and Political Science)
(Continued from the last issue)

The Development of the Educational Problem

THE R.I.B.A. refused for many years to take the responsibility of awarding any diploma in architecture, with the question—which at that time seemed to many of the leaders of the profession an irresistible argument—how could there be an examination in architecture? In 1863, indeed, the Institute began to hold examinations in certain professional subjects, on the distinct understanding that to submit to them was to be and to remain an entirely voluntary work of supererogation on the part of the youthful aspirant, and that no diploma would ever be awarded. So discouraging were the conditions that no candidates presented themselves. Not for another quarter of a century, when a new generation of members had to deal with new conditions, did the official attitude change. Meanwhile the lectures and classes of the Architectural Association, long given gratuitously by zealous missionaries of architectural education, had gradually developed into systematically planned day and evening schools; and a certain amount of distinctly useful instruction for young architects was being provided, not only in the Royal Academy school but also by lectures at University and King's Colleges; by classes in building construction and various sciences in evening classes and technical institutes, and by several of the provincial universities. In 1877, after much pressure, the Council so far gave way to the desire for some distinct recognition of the need for professional training as to accept by-laws which provided that candidates for the Associateship might hereafter be subjected to the test of an examination. Not for five years were these by-laws acted upon and the necessary examinations held—not even then as a matter of course—whilst the Fellowship was still awarded freely without any such condition. In 1886, after renewed discussion and agitation, the Council referred to a Special Committee the consideration of the vexed question of whether or not the Institute should definitely place itself upon an examination basis and henceforth require the passing of prescribed tests as a condition of admission to the Fellowship as well as to the Associateship. That Special Committee found itself still faced with the poser, How can anyone examine in art? The modern tendency, and especially the influence in this direction of the allied societies in the provincial towns, was, however, by this time too strong to be resisted. After continued agitation a supplementary charter was obtained in 1887, expressly conferring the power to subject candidates to examination and to issue certificates or diplomas. A formal conference between the Institute and the allied provincial societies in May, 1887, resulted in resolutions emphatically calling upon the Institute to take into its hands the guidance and direction of architectural education, and to establish a complete series of examinations, qualifying for the stages of Probationers, Students and Associates respectively. It was provided by the new charter that, after five years from its date, it should be within the power of the Council to resolve that the Fellowship should be conferred only upon those who had already become Associates. It was the intention of a large part of the members that this power to restrict admissions to the Fellowship to the Associate class, and thus eventually to those who had passed the examination for the Associateship, should be really put in force. But the Council, representing, as it believed, the majority of the members, clung to the Institute's freedom to elect and admit to the Fellowship any practising architect, even if he had not passed through the grade of Associateship. This attitude of the Council led to some tension and to determined resistance by a minority, which was shown at different meetings in 1907 and 1908, by the failure of those candidates for the Fellowship who were not already Associates to secure the necessary three-fourths majority for election. The dis-
pute was settled by the supplementary charter of 1909, which definitely provided that the Fellows should normally be elected at a members' meeting from among the Associates, whilst allowing the Council, in exceptional cases, to elect and admit as a Fellow a practising architect of at least thirty years of age and over seven years' standing. This systematic adoption of public examination for the Associateship, intended as the only future means of entry to the Institute, whilst it evoked some disapproval from those who clung to the conception of architecture as one of the "fine arts" for which examination tests seemed inappropriate, greatly stimulated the provision of professional instruction and incidentally proved most successful in attracting members to the Institute. Already in 1891 it could be reported that, since the examination was made compulsory for the Associateship, the average number of persons elected to that grade had more than doubled. During the past ten years the total membership of the Institute has again increased by fifty per cent. Even the objectors came gradually to recognize the utility of this systematic instruction. During the past decade the contending parties have, in fact, silently dropped the old controversy and applied themselves to developing the systematic professional instruction which should supplement the experience gained as pupil or assistant. The Institute now appoints a Board of Architectural Education, which includes advisory members representing the Architectural Association and the various universities of the British Empire having schools or professors of architecture. It distributes every year something like a thousand pounds worth of prizes and studentships. At great expense it maintains and opens freely to all comers the finest architectural library in the Kingdom. The Architectural Association, the universities and other teaching institutions throughout the country have become "recognized schools," working on a syllabus issued by the Board of Architectural Education and appointing External Examiners approved by the Board. Their examinations are thereupon accepted as alternatives to the R.I.B.A. Intermediate. The recognized schools also supervise the design work of students for the R.I.B.A. Final. Thus, the whole architectural education of the country has been coördinated and directed by the body representing the profession. The traveling scholarships awarded by the Institute, enabling several students annually to start on one or two years' study in other countries, may, it is hoped, be developed into a fully organized center of advanced architectural instruction, in London or elsewhere, in order to equip the most promising of the aspirants with the most comprehensive and the most advanced training.

Registration of Architects

The adoption of a system of public examinations as the portal to membership of the Institute has been throughout mixed up with the different question of the formation of a public register of the profession. The demand for some authoritative registration of persons qualified to be architects, with some protection for registered practitioners against the competition of the unqualified, is more than half a century old. Already in 1854, it is said, expression was given to the need of the qualified practitioner—especially in the provincial towns—for some such protection. Not only was (and is) every estate agent and every little builder free to put up whatever monstrosities in the way of colleges or villas that he chose, but any carpenter or contractor, even any auctioneer or house agent, was (and still is) free to style himself an architect, without knowledge or qualification of any kind, and to obtain commissions to put up buildings of all sorts from clients unaware of his professional incompetence, commissions which he may execute partly by making use of the published drawings and details and model forms of specification to be found in easily accessible technical works and partly by using the services as "ghost" of a youthful pupil or a salaried architectural assistant. There are cases in which the false pretenses of the self-styled architect amount actually to fraud on the public.

The Council of the Institute for a whole generation ignored the growing demand to which the profession was gradually becoming converted. Down to 1887, indeed, the subject

seems not to have cropped up in any official proceedings. "The leading lights of the Institute," it has been somewhat bitterly said of the men of these years, "comprising the greater number of the most eminent men in the profession, looked upon registration with disgust, as an attempt to tram and hamper a calling the chief aim of which was not the exercise of professional or administrative functions but the expression of artistic ideals in brick and stone. Theoretically they were absolutely right, but they were the leaders of the profession in London, the largest practitioners, and some, be it noted, were remarkably good business men in the handling of their affairs. They never really felt the pinch of unqualified competition as did their humber suburban and provincial brethren. Then was born the Society of Architects composed of men who felt the need for and demanded registration."* In fact, finding the R.I.B.A. refusing to move definitely for statutory registration, a number of architects, partly metropolitan, partly provincial, resolved to form a separate organization primarily devoted to these objects.

The Founding of the Society of Architects

Partly on the initiative of Mr. E. J. Kibb...
twenty-eight and then to thirty) should be sub-
cluded. Meanwhile the propaganda of the
policy of statutory registration was main-
tained, and the Bill was introduced in the House
of Commons again in 1900 but failed once more
to secure a day. In 1903 the Architects
Registration Committee merged itself in the
Society of Architects, which thereupon carried
through another elaborate plebiscite of the
profession within the British Isles upon the
issue of registration. Out of nearly 6,000 archi-
tects individually appealed to, two-thirds
replied, and of these only 170 voted against
registration. It is interesting to record that the
Council of the Institute, which still looked upon
the movement with scant favor, issued a coun-
ter-statement arguing against statutory regis-
tration, and appealed to their allied societies in
the provinces to express their opinions on the
subject. But a majority of the allied societies
expressed themselves more or less forcibly in
its favor. The election of the Council of the
Institute in 1904, perhaps owing to superior
organization of what was, in fact, only a
minority of the membership, also went in
favor of the candidates who supported the policy
of registration, and the old attitude of absolute
resistance may be said to have been then
silently abandoned. On the one side, under
the influence of the late John Belcher, who was
president of the Institute in 1904-6, and was
awarded its Royal Gold Medal in 1907, a con-
siderable number of artistic and otherwise dis-
tinguished architects, who had hitherto held
aloof from the Institute, were induced to throw
in their lot with what had indubitably become
the responsible professional organization for the
whole Empire. On the other side, in the same
year, the rival Society of Architects entered into
friendly communications with the Institute
with a view to arriving at a common policy. A
Committee of the Institute, which had been
appointed in 1904 to consider the whole sub-
ject, was emboldened to get drafted a new
registration bill. Meanwhile, however, the
situation was confused in May, 1905, by the
rejection of the Institute’s “Registrationist
Council” and the election to the Council of
members who stood on the old lines. The bill
already drafted was published, but at the same
time negotiations were set on foot with a view
to uniting, not so much the divergent voices of
the profession, as both sections of the Insti-
tute’s members. This led to the submission to a
general meeting, in April, 1906, of what was
intended to be a compromise report. It was
proposed that the Institute’s Registration Bill
should be dropped, and that the Institute
should, for the present, “confine itself to
attempting to obtain Parliamentary recogni-
tion for its membership.” A supplementary
charter was to be obtained, with new by-laws
definitely restricting admission to the Fellow-
ship to Associates, but widening the scope of the
Institute by the admission of a new class of
Licentiates, who might, under careful restric-
tions, for a limited period proceed to the Fel-
lowship. These proposals secured the general
approval of the members during 1906 and 1907,
but the supplementary charter and new by-laws
were not obtained until 1909 and 1910 respec-
tively.

The Growing Support of the Registration
Principle

Meanwhile the idea of an authoritative
registration of the whole profession, protected
by penalties on unqualified practitioners, obtained an ever-widening support. The Society
of Architects again pressed forward its scheme,
securing for its bill at the General Election of
1906 the support of many Parliamentary can-
didates. It was not without influence that the
International Congress of Architects, held in
London in 1906, had passed a resolution in
favor of every country adopting a statutory
qualification for architects. Another plebiscite
of the profession in the British Isles, carried out
by The Builder in the same year, showed a
majority of eight to one in favor of registration.
The tide was now too strong to be resisted. In
1911 the Institute appointed a Parliamentary
Bill Committee to draft the limited measure
contemplated in the “compromise” proposals of
1906. It became, however, apparent that the
opposition of the Society of Architects, added
to that of the unorganized practitioners, would
be fatal to any Parliamentary proceedings.
Negotiations were accordingly opened between
the Institute and the Society, on the basis of the
fusion of the two bodies, and the promotion
of a bill for the registration of all actually
practising architects, protected by penalties on
unregistered practitioners. The basis of such
THE ORGANIZATION OF THE ARCHITECTURAL PROFESSION

an amalgamation was agreed to by the two Councils, and even by meetings of the members of both societies, but at the last moment it was discovered that the charter of the Institute did not empower it to enter into a binding agreement on the subject. The completion of the fusion was thereupon adjourned until the Institute could obtain a supplementary charter. When, however, this supplementary charter was drafted and presented to the members of the Institute in 1912, it was referred back for further consideration of the whole subject.

The Establishment of the Licentiate Class in the R.I.B.A.

The somewhat bewildering uncertainty and vacillation of the Institute with regard to registration may be attributed partly to its own internal difficulties of constitution—the method of election sometimes producing a Council out of sympathy with the majority of the members,—partly to an ever-shifting cleavage of opinion among the members themselves, not now so much about the desirability of some sort of registration as about the method and machinery to be adopted. In 1908–10, when the Institute could count in its membership probably fewer than a fifth of the architects of the British Isles, the Fellows and Associates agreed, as we have mentioned, to open its doors so far as to admit, at a subscription of a guinea a year, during a strictly limited period (March, 1910, to June, 1912), any reputable architect over thirty, not engaged in any other avocation than that of architect and surveyor, who had been either five years in practice as a principal, or ten years practising or studying architecture in any capacity, and who could get recommended by three Fellows or Associates for election by a two-thirds majority of the Council. He was not admitted as a Fellow, nor even as an Associate, but only to the new grade of Licentiate, and it was provided that Licentiates should have no right to vote and should not even become corporate members of the Institute. They were, however, given the privilege of proceeding by examination direct to the Fellowship, if otherwise eligible, up to the year 1920 only. No fewer than 2,221 Licentiates of the Institute were thus elected, and the number of architects within the range of its influence was thereby greatly increased.

This great accession of numerical strength to the Institute encouraged those who, whilst convinced of the advantage of an authoritative registration of architects, doubted either the wisdom or the practicability of statutory registration, to which the Society of Architects pinned its faith, and who preferred to advocate registration by charter. Let the Institute, it was urged, obtain yet another supplementary charter, creating a new class of "chartered architects," analogous to the "chartered accountants," to whom official positions and public engagements could gradually be restricted. When, however, such a proposal came to be discussed it was found that many of the leading Fellows and Associates of the Institute were indisposed to admit to the privileged rank of chartered member either the members of the allied societies or the members of the Society of Architects, or even the Licentiates who had just been attracted to the Institute itself. These might, it was suggested, content themselves with the lower title of "registered architects." The Registration Committee, which had been appointed after the defeat of the fusion scheme in January, 1912, produced in 1913 a further scheme on these lines, leaving to the Council to decide whether to recommend a Bill on the lines of the "compromise" of 1906 or the policy of "registration by charter," without penal provisions against outside unregistered practitioners. The Council recommended the members to adopt the latter proposal—thus reverting substantially to the Institute's position of a quarter of a century before. Proposals for the necessary supplementary charter, carried by more than two to one at the biggest members' meeting ever held at the R.I.B.A., were still under consideration—the Society of Architects meanwhile once more getting its Bill introduced, this time in the House of Lords*—when the out-

*The Bill promoted by the Society of Architects in 1914 proposed the establishment of a Council of Architectural Education and Registration of the United Kingdom, constituted partly of nominees of the Crown and the various professional bodies, partly of representatives directly elected by the registered practitioners. The register is to consist, at the outset, of all members of all architectural societies, all persons actually practising in the United Kingdom, and all who have been for five years students or assistants. In future, admission is to be only on examination, after a prescribed period of training, either in an architect's office or at a school of architecture. The registered practitioners alone may use the term architect, and penalties are provided for any infringement. But the rights are safeguarded of members of the Institution of Civil Engineers, the Institution of Municipal and County Engineers, the Society of Engineers, the Institute of Civil Engineers of Ireland, the Surveyors' Institution, and the Quantity Surveyors' Association.
break of the war in 1914 threw the whole ques-
tion into abeyance.

Some of the Prime Factors Involved in the
Registration Controversy

Looking back on the whole controversy, it
must be said in fairness to the early opponents
of registration that, whilst the genuine advan-
tages offered by the establishment of a register,
notably in the way of securing thereby a higher
standard of education throughout the profes-
sion, have gradually made themselves manifest,
with the result of winning over to the idea the
great majority of the profession, yet it has not
always been for these public benefits that the
registrationists have contended. Those who,
in the earlier years of the controversy, took
their stand against registration could not fail to
be impressed by the fact that the movement
drew much (though not all) of its strength from
the desire of professional architects of no great
competence or skill for protection against the
competition of men who, often without regular
professional qualifications, nevertheless suc-
cceeded in putting up buildings which were
sometimes superior, rather than inferior, to those
erected by their professionally qualified rivals.

Not every Associate of the Institute, not even
every Fellow, turns out better cottages and farm
buildings than does the estate agent equipped
with the best plans; streets of shops and dwell-
ing houses less ugly and monotonous than does
the speculative builder of practical experience;
schools and municipal offices more adapted to
their purpose and artistically less monstrous
than does the borough engineer or surveyor.
It was not until the case for registration was put
on the broader and more tenable ground of its
effect in improving the educational qualifica-
tions of the architects themselves—in the
promotion of which those who talked most
about registration have often taken least part—
that it won its way, in so far as it could be
shown to be practicable, to the hearts of the
majority of the profession.

Moreover, many ardent registrationists who
complain that so little has been done do not
realize the obstacles with which those who have
the actual carriage of the business find them-
selves faced. Great indeed are the difficulties in
this country in the way of any authoritative
registration which is to confer anything in the
nature of monopoly privileges. The number of
persons practising as architects in the United
Kingdom, either as principals or as salaried
assistants—to say nothing of the students in
the schools and the pupils in the offices*—has
been lately officially estimated at about 12,000,
of whom perhaps 3,000 are in London, 8,000 in
English provincial towns, 500 in Scotland, and
as many more in Ireland and Wales together. Of
these (allowing for members retired, or in other
professions, or practising outside the British
Isles) possible 750 are Fellows, and 1,400 are
Associates of the R.I.B.A., being only one-

*The R.I.B.A. has registered about 1,100 students who have passed
its intermediate examination, and about 3,000 probationers who have
passed its preliminary examination.
†The only societies of architects in the United Kingdom not at present
in alliance with the Institute—apart from the Society of Architects—
appear to be the Preston Society of Architects, the Gloucestershire Archi-
tectural Association, the Wolverhampton Society of Architects, and the
Bradford Society of Architects and Surveyors, together with the Ulster
Society of Architects.
THE ORGANIZATION OF THE ARCHITECTURAL PROFESSION

..ciples or as assistants, and members of one or other professional associations, may be put at between five and six thousand, or probably not quite one-half of the whole. How many of these are practising on their account as principals, how many are salaried heads of the architectural departments of public authorities,* and how many are merely architects' assistants cannot easily be ascertained. It is suggested by many that, if the Institute would but agree to admit to a common registered membership at the outset all the existing members of all the existing societies—or such among them as are actually practising within the British Isles—and if proper conditions for subsequent accessions to the register were agreed upon, voluntary registration, which might be ratified subsequently by an unopposed charter, ought not to be impracticable. The position is simplified by the term "in practice" being confined to those in general practice as principals, in accordance with the usage of the Institute of Chartered Accountants, and the task might be lightened if principals alone were made eligible for registration.

It is, however, objected that the establishment, by agreement among the societies, of a register of architects in practice—perhaps with four separate columns for principals carrying on general practice, the salaried heads of public architectural departments, salaried assistants actually engaged in architectural work, and duly enrolled students—whilst it would probably promote the amalgamation of the different societies and consolidate their influence upon the profession, would not achieve the object of preventing unregistered persons from posing as architects or from holding public appointments, or from obtaining architectural commissions from public authorities. To secure, whether by charter or by statute, any such monopoly privileges in this country will, it is said in reply, never be practicable. There are still not a few architects of acknowledged competence, and even high repute, outside the membership of any society—men who have passed no examination in architecture and are in possession of no paper qualification whatever. It would clearly be necessary to admit, at the outset, to any register conferring exclusive privileges, not only all the practising members of all the societies, but also all non-members actually practising the profession. Moreover what is an architect? This is a question which has led to much scornful controversy. "Perhaps no other profession in England comprehends within legitimate limits so great a diversity of recognized business." In law, as in common parlance, "every man is entitled to call himself an architect who undertakes the direction of building work."* Among the practising architects in the British Isles, some, it has been said, "are enthusiastic artists or exquisite draughtsmen while others make no such pretension. Some are careful scientific constructors and others nothing of the kind. Some are the most prosaic of building directors in the beaten track of commercial agency, and no more. Others are surveyors, valuers, negotiators, advocates, property agents, accountants, financiers, managers of estates, collectors of rents and what not, in the greatest variety."† The various societies of architects include, in fact, in their membership men who may or may not have some architectural competence, but who are actually practising mainly, or even exclusively, as surveyors, quantity surveyors, valuers, civil engineers, or sanitary engineers, if not also as estate agents, house-agents or auctioneers—in some cases even holding full-time salaried appointments unconnected with architecture.

The Institute itself has dropped its express prohibition of its Fellows and Associates practising as quantity surveyors; and though the new class of Licentiates in 1910-12 were required to declare that they were engaged in "no other avocation," the combination of "architect and surveyor" was expressly permitted to them.‡ It is clear that

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*It has been estimated that a couple of thousand architects are holding salaried appointments, otherwise than as assistants to architects in general practice—an estimate the accuracy of which is doubted by other authorities.


‡Out of about 1,100 persons in the London Directory under the heading "architects," of whom about 480 belong to the Institute, about 550 describe themselves as "surveyors," of whom about 230 are members of the Institute" ("Architecture a Profession or an Art," by R. Norman Shaw and T. G. Jackson, 1892, p. 91). It is interesting to give the corresponding figures twenty-three years later. Curiously enough, the total of architects and the number of those who are Fellows or Associates of the Institute is almost identically the same in 1915 as in 1892, viz., about 1,100 and 480 respectively, a very striking indication of the extent to which architectural business has been dispersed among the provincial towns or "localized." But only about 400 (as compared with 550) of these architects describe themselves also as surveyors, and of these only about 250 (as compared with 230) are Fellows or Associates of the Institute. It may be remarked that a surveyor is at least as difficult to define as an architect. "A surveyor," it has been said, "may be a land surveyor, a developer of building estates, an arbitrator or expert on matters of building law, or a quantity surveyor." (Ibid, p. 94.)
neither the Surveyors' Institution nor the Quantity Surveyors' Association would consent, any more than would the Institution of Civil Engineers, or the Institution of Municipal and County Engineers, to any enforcement of an exclusive right of architects to do work which is, in fact, now often performed by members of these societies.* It is said, in reply, that an Act of Parliament, or a Royal charter might at any rate confer the exclusive right to use the designation of architect, or registered architect, or chartered architect, with initials corresponding thereto; and that such laws are in force in many of the United States, in several provinces of the Dominion of Canada, in New Zealand, and in the province of the Transvaal. It is, however, a moot point whether any such new title, even with its corresponding initial letters, however legally protected, would be worth more in the eyes of the public than the old established F.R.I.B.A. and A.R.I.B.A. Nor is it clear that, even where statutory registration is in force, any great progress has been made, otherwise than on paper, in clearing away unqualified practitioners. Of the Transvaal registration, then over five years old, it was said in 1913 that, whilst, at some cost to the profession in fees, it had conferred a legal monopoly of the title of architect, this had been found to be nugatory. There was nothing to prevent all sorts of unregistered persons from doing what was essentially architects' work and pressing their services on the public. Advertisements appeared in the newspapers from estate agents and contractors, from civil engineers and land and building companies, even from persons calling themselves "structural experts," offering to supply plans and specifications and to put up every kind of building at fees having no relation to those customary in the profession.* On the other hand, it is frequently asked that it should be provided that no public authority or institution aided from public funds should entrust its architectural work to any but a registered architect—a requirement which would be most strenuously opposed by the Municipal Corporations Association, the County Councils Association, and other representatives of local authorities, as well as by the various professional associations of engineers and surveyors, notably by the Association of County and Municipal Engineers. Finally, it must be said that, since the organized resistance made by the medical practitioners to the Government proposals under the National Insurance Act, the feeling of the House of Commons has become perceptibly more adverse toward professional organizations of any sort; and all expert Parliamentary advisers declare that the present House will not so much as look at proposals savoring of professional monopoly.

*Half a dozen architects—among them Fellows and Associates of the R.I.B.A.—describe themselves in the London Directory for 1915 as being also civil engineers. A small number of Fellows and Associates of the R.I.B.A. are also associates or members of the Institution of Civil Engineers or the Institution of Mechanical Engineers, and more of them are Fellows of the Surveyors' Institution.

It is to be noted, too, that joint stock companies, such as the gigantic London "stores," are now practising as architects to no small extent, as well as carrying on the businesses of house agency, valuing, surveying, and building—all in conjunction with each other!

Important Court Decision on the Districting Law of New York City

A court decision having an important bearing on the districting law adopted by New York City in 1916 was recently rendered by the Appellate Division of the Supreme Court of New York City. The case involved the validity of a contract for the purchase of property lying within a residential district, as determined by the districting plan. Prior to the enactment of the law, a manufacturing firm contracted to purchase the property in question with the intention of using the same for industrial purposes. The passage of the law restricted this property to residential purposes only. The original owner of the property sued the manufacturing concern to force them to carry out their contract, but the Appellate Division of the Supreme Court held that the restriction imposed on the property by the districting plan was an incumbrance on the property and therefore invalidated the original contract in which no reference was made to such incumbrance.

Part of the opinion relieving the defendants of the contract reads:

"There can be on doubt that such a restriction (the zone resolution) upon the uses to which the property may be put would, if imposed by a covenant found in the chain of title and running with the land, constitute an incumbrance and absolve defendant from his contract to purchase it. This is conceded by the plaintiff-respondent. But it is said that such a restriction upon the use to which the property may be put, if imposed by legislative or municipal authority, while it may operate as an incum-
IMPORTANT COURT DECISION

In matters of a court decision, it is deemed to have contracted to purchase the property subject to them."

The final report of the Commission on Building Districts and Restrictions of New York City has now been made public. It will be found invaluable to students of zoning, districting and city planning generally, and may be had for $1 from the Committee on City Plan, Board of Estimate and Apportionment, New York City.

Military Unit Hospital Built by The Rockefeller Institute for Medical Research, in New York City

On June 1 last there was begun by the Rockefeller Institute of Medical Research, on its grounds at 66th Street and Avenue A, New York City, a military unit hospital. The object of this enterprise is to make available to patients an improved method of treatment; to demonstrate and teach to American surgeons who may be enrolled for military service measures for the treatment of infected wounds, especially by the Carrel-Dakin method; and to test the feasibility of a unit portable military hospital designed by Mr. Charles Butler, of New York City, who worked under the French War Department in making a thorough study of the military hospital units which have been developed for use in France and England. The hospital has now been completed, and while its erection was at least expedited by the war, it is expected that it will be of great benefit in the treatment of industrial accidents of all kinds where infected wounds are of frequent occurrence. Successive groups of surgeons will be assigned to the hospital as a means of familiarizing the Army Medical Department with the treatment invented by Drs. Carrel and Dakin. The results, both from the medical and from the hospital points of view, will be watched with keen interest by all who are interested in seeing the war hospitals of the United States brought to the highest standard through the utilization of the knowledge and experience which has been so dearly bought by our allies. The buildings in the above unit have double walls, roofs and floors, since the experience in France has proven that single walls, roofs and floors are not suitable to extremes of heat or cold. It is reported that men have been frozen to death in hospital buildings of the single-wall type.
Evening on the Upper Mississippi
The Museum, Minneapolis
CATHEDRAL HEIGHTS
NEW YORK CITY
Beaux-Arts Institute of Design
Official Notification of Awards—Judgments of May 22, and June 5, 1917

Class “B,” Fifth Analytique


Program.—A Niche. Drawings submitted, 77.


Class “B,” Fifth Projet


Program.—A County Courthouse. Drawings submitted, 77.

Awards.—First Mention Placed, A. E. Middlehurst, Cornell University; O. Blomstergren, P. A. Tischler and H. G. Marceau, Columbia University.


Special Prize Competition

Class “A,” Sixth Projet


Program.—A Courtroom for the United States Supreme Court. Drawings submitted, 31.

Awards.—First Prize, Architectural Books to the value of $200 and First Medal, L. C. Licht, University of Pennsylvania.

Third Prize, Architectural Books to the value of $50 and First Medal, A. F. Skogge, Atelier Hirons, New York City.

The Second Prize was not awarded.

Second Medal, L. V. Lacy, Cornell University; M. C. Beebe, Atelier Hirons, New York City.
First Prize and First Medal, L. C. Licht

SPECIAL CLASS COMPETITION AND CLASS A.—VI Project.—A Court Room for the United States Supreme Court
Street Lighting in the National Capital

By WALTER C. ALLEN
Electrical Engineer for the District of Columbia

ABOUT eight years ago, the importance of adopting a comprehensive plan for lighting the streets of Washington was recognized, and to that end an extensive series of tests was conducted to ascertain the possibilities of the various forms of lighting and their adaptability to the several classes of streets. These tests (Trans. Ill. Eng. Soc., Vol. 4, No. 3, March, 1909) were followed by trial installations on the street of lamps of various sizes, spacings, and mounting heights, and from the data obtained the present plan of lighting was adopted.

For the residential boulevards, avenues, and streets having (generally) a roadway width of 50 feet, the posts are arranged on the "staggered" plan with a spacing of 60 feet measured along the axis of the street (see Figure 1). Gas-filled incandescent lamps of 100 candlepower are used, mounted 10 feet 3 inches above the pavement in opalescent globes 14 inches in diameter (see Figure 2). The present rates for these is $2.23 per lamp per annum, which gives a cost of approximately 39 cents per foot of street per annum. For other residential streets where the roadway width averages 35 feet, a spacing of from 75 to 80 feet is employed, with the "staggered" arrangement, and with the same size and kind of lamp. Illustrated descriptions of this form of lighting appeared in the "Illuminating Engineer" for October, 1910 and January, 1912. Several typical views are given here (Figures 3 to 13), showing how admirably the posts harmonize with the surrounding improvements.

For the important streets outside of the congested business area, where traffic considerations require a higher intensity of illumination and where the roadway widths vary from 70 to 85 feet, 100-candlepower lamps are placed on the parallel arrangement (that is, opposite each other), with an average spacing of from 75 to 80 feet (see Figure 14). In this instance the posts are twelve feet in height to the center of a 16-inch opalescent globe. The annual cost per foot of street in these cases varies from 57 to 62 cents.

For the streets in the congested business area an ornamental arc lighting system has been adopted, using the 6.6-ampere luminous lamp giving approximately 1,500 candlepower at an angle of 15 degrees below the horizontal. These lamps are set on the top of the posts, inside especially designed spherical ribbed globes, having twelve panels of cased opal glass (see Figures 15 and 16). The light source is placed 15 feet above the pavement, and the glare from it is entirely eliminated by the perfect diffusion obtained through this cased glass, with an absorption of about 30 per cent of the light. The posts are "staggered" at an average spacing of 100 feet, measured along the axis of the street. The rate per lamp per annum is $97.50, which gives an average maintenance cost of 97½ cents per foot of street.

That portion of Pennsylvania Avenue from the Capitol to the Treasury Building, famous as the scene of the quadrennial inaugural processions, has been especially treated. The same type of post and arc lamp is used as in the congested area; the spacing, however, averages 50 feet along the axis of the street, which is 109 feet wide between curbs (see Figure 17). In this particular instance, 123 lamps are used along 6,356 feet of street, giving an annual cost of $1,886 per foot. These posts are so designed as to be readily adapted to the use of high-candlepower gas-filled incandescent lamps, should the substitution of such lamps for the present arc lamps be desirable. The results of a series of tests made by the Bureau of Standards to...
determine the illumination on the surface of the roadway are shown in Figure 18. The decimal figures adjacent to each test station represent the average foot candles obtained by two different observers using separate photometers. A well-illustrated description of this installation will be found in the General Electric Review for March, 1914.

Architects will be interested in the opinions of the Federal Commission of Fine Arts on a plan suggested by the writer (see Report of Commissioners of the District of Columbia, 1909, Vol. I, p. 159, and Illuminating Engineer, January, 1909, to light this avenue from centrally located posts.

"Members of the Commission are personally familiar with a large number of the instances, both abroad and in this country, illustrated in the paper accompanying the report on the plan, and each of the members has independently reached the opinion that in every case of long, straight avenues the appearance of the streets has suffered materially from the presence of the posts in the midst of the street. Therefore, in spite of the fact that such a method of lighting has been tried in many important thoroughfares, it is believed that lamps on tall posts, with isles of safety in connection, near the middle of the roadway, would confuse and seriously injure the appearance..."
Figure 13. South Side of Washington Public Library. Mounting Height of Lights, 12 Feet

Mounting Height of Lights, 12 Feet, Roadway 80 Feet

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of Pennsylvania Avenue, the most important vista in the Capital. Another consideration, which is both practical and esthetic, is that the presence of these posts and islands in the roadway would interfere with the best handling of parades."—See Report of Commission of Fine Arts for 1912, Senate Document 960, 62nd Congress, 3rd Session.

So-called "White Way" effects have not been sought in any of the plans for the illumination of the streets of the National Capital. With the possible exception of the Pennsylvania Avenue installation, the illumination is of a low intensity compared with that in vogue in many of the large cities of this country.

Figure 12. Seventeenth Street. Memorial Hall of the Daughters of the American Revolution in Foreground. Lamps Staggered, 60 Feet Spacing, Mounting Height 12 Feet, Roadway 50 Feet
Progress in the Development of Baltimore’s Civic Center

The civic-center plan for Baltimore prepared for the Municipal Art Society in 1910 by John M. Carrere, Arnold W. Brunner, and Frederick Law Olmsted, was given a new lease of life recently when the Mayor proposed a vote by the people of a $3,000,000 bond issue for carrying out the project. This bond issue was authorized by the Legislature in 1908 but was never submitted to the voters for ratification. Since the Mayor’s suggestion was made public, the City Planning Commission, the Park Board, the Municipal Art Society, and the Committee on Housing have devised a plan to facilitate the financial accomplishment of the plan.

The scheme involved the immediate acquisition of three city blocks lying between the City Hall and Fallsway, the latter a recently completed highway constructed above what was formerly an open creek called Jones Falls. The Courthouse, Post-Office and City Hall form the nucleus of the civic center.

The plan proposed and the method of financing it has met with general approval, but the whole scheme has been set back temporarily by a court action recently instituted by owners of the property to be taken. An existing ordinance under which it is proposed to condemn this land was deemed insufficient to enable the city to take title. When legal difficulties are removed, it is proposed that the civic-center scheme should proceed as originally planned.

New Baltimore Harbor Bridge

Among the extensive plans for the development of the harbor and contiguous industrial districts in southern Baltimore, one of the most important projects is the Hanover Street bridge across the Patapsco River at Light Street. It is of concrete construction and interesting architecturally. The bridge was erected from designs by J. F. Greiner, consulting engineer, with W. W. Emmart, of Elicott and Emmart, as consultant on architectural details.
Proposed Civic Center Scheme for Los Angeles

A civic-center scheme for Los Angeles has been proposed by R. S. Rankin, landscape architect, and a member of the City Plan Association of that city. The plan involves the acquisition by the city of what is termed Bunker Hill, and provides for the erection of several municipal buildings. It is believed that the site proposed presents an opportunity for the construction of a centrally located monumental group surpassing any other similar development in the country. In addition, the cost of the land is surprisingly low, location and size considered.

The civic center for Los Angeles has been under discussion for a number of years. A plan for a central development of this sort was proposed by Charles Mulford Robinson in his report to the Municipal Art Commission in 1907. This plan, however, was invalidated by the erection of a county building on a portion of the site without relation to the general scheme as proposed. Mr. Rankin's plan provides for a new city hall, one of the immediate needs of the city, and allots sites for a state building, a music hall, a museum of fine arts, a municipal theatre, post-office, courthouse, and hall of records. It also includes a related educational group or municipal university. The chief feature of the scheme is a formal quadrangle about which the buildings will be grouped.
The Proposed Civic Center for Evanston, Illinois

As shown by the plan reproduced above, the civic center scheme consists of three major areas: Commercial Park; the central square with public mall (on which the existing city hall and post office are located); and an area known as Railroad Park, lying between the Chicago and Northwestern depot and the elevated railway. The plan involves the removal of business buildings now located on a portion of Commercial Park, the clearance of the areas (shown in green) on the central square, the removal of the embankment below the elevated railway tracks in Railroad Park, and the development of the latter area on formal lines, with a dignified bridge of three spans to carry the elevated railway tracks. The whole scheme gives a fine vista from Commercial Park along the public mall to the railway entrance to the city.
TOWN-PLANNING AND HOUSING

Plan of Evanston

The city of Evanston, Ill., has recently been presented with a valuable city-planning report by the City Plan Committee of the Small Parks and Playgrounds Association, an unofficial organization formed in 1909. The Plan Committee was appointed in 1916. Its members are Daniel H. Burnham, II, chairman, Dwight H. Perkins, Thomas E. Tallmadge and Hubert Burnham, all members of the Institute. The “Plan of Evanston” is the result of nearly a year’s study by the Committee, with the cooperation of public spirited citizens who contributed funds for the drafting and printing of the report, which is a real addition to the literature of city planning, both in respect to its form and makeup, and particularly with respect to the appeal which it is certain to make to the people of Evanston. It illustrates a happy combination of graphic material supported by sound facts presented in simple and attractive form.

The Committee has based its recommendations on knowledge gained from daily acquaintance with the city and its life and has been unusually successful in proposing changes and improvements in the plan that are manifestly reasonable and comparatively inexpensive.

For fully over half a century Evanston had the reputation of being a place distinct in some ways from the other suburbs of Chicago; a place where many advantages were to be enjoyed. Yet there are unmistakable evidences today of a growth which menaces the permanence of the original advantages of the town, and which the Plan Committee seeks to remedy by wise provision for future planning work.

The major portion of the “Plan of Evanston” is given over to the typical problems of a residential city, namely, pleasure drives and traffic ways, the civic and educational center, and the recreational system. The first group of problems, relating to commercial and pleasure traffic, is treated in three sections. The Committee lays special emphasis on that phase of city planning which is steadily increasing in importance, and which is of peculiar significance to Evanston, namely, the separation of commercial traffic from pleasure vehicles by the provision of traffic ways peculiarly adapted, by reason of their grade, alignment, and direction, to the needs of local business. Closely related to this problem is that of treating the diversion of commercial traffic not originating in or destined for Evanston, to by-pass roads and county thoroughfares radiating from Chicago to the north and northwest. This and the other problem dealing with traffic of various kinds are treated in accordance with the best modern practice and are so reasonable and practical as to commend them to the city authorities.

The second group of problems hinges about the improvement of the city center. Today, a visitor entering Evanston at either of the Davis Street stations would find little promise of what the city holds in store for him. The city gate and city center are inadequate and utterly unworthy. The Plan Committee’s recommendations which are illustrated in the perspective view reproduced herewith, have the merit of being inexpensive, favorable to traffic movement, architecturally pleasing and sufficiently restrained to make possible their gradual realization. The scheme will benefit business in the city center, increase taxable values, and stimulate civic pride. The cost of the property required for the city center would not exceed $320,000, including land to be purchased and buildings to be removed.

The third important group of problems is the extension of the park system and the provision of adequate recreational facilities, with a proposed island in the lake, parallel to and about 600 feet from the shore-line. The greatest physical asset of Evanston is its lake frontage, and the plan proposes to develop this to the fullest possible extent for park and recreation purposes. This is the most important and expensive project recommended by the Committee. The cost of construction for the island park would be slightly over a million and a half dollars. Evanston’s present park assets, amounting to one acre for each one thousand of population, fall far short of the standards set by other progressive American cities. The Committee proposes an extension and improvement of parks and playgrounds that will provide comprehensively for all classes and ages of the population. Briefly, the Committee recommends the provision of playgrounds under private initiative in the center of blocks; the acquisition by the city of large and well-designed play-spaces about school buildings and of athletic fields for games and sports, and a municipal golf-course.

The importance of districting or zoning is emphasized and strong recommendations are made for early action by the city in this direction. The well-deserved distinction of Evanston as a city of trees is discussed and measures proposed for scientific planting and culture. The Committee very wisely includes a chapter on steps for realizing the improvements proposed, and, as a necessary incident to the financing of a large part of their program, strongly urges the creation of a park district for the whole of Evanston, as affording much more ample powers and opportunities to realize some of the proposed improvements at an early date.

News Notes

Perhaps the architects of Pennsylvania did not realize why their proposed registration bill died a natural death. The following letter from Mr. Albert Kelsey, the President of the Pennsylvania State Association of the American Institute of Architects, may shed some light on the subject:

July 13, 1917.

C. Emlen Urban,
President of the Southern Pennsylvania Chapter, A.I.A., Lancaster, Pa.

Dear Sir: I have just learned from State Senator Jenkins, a member of the Judiciary General Committee, why our bill to license architects was never reported out of Committee. He naively told me that it was thought to be a hindrance in the way of poor boys, adding apologetically, that the music teachers and barbers of Pennsylvania had each advanced similar bills, and further that the music teachers’ bill was never reported out of Committee any more than ours, but that the barbers’ was, only to be voted down by the House.

Very truly yours,

(Signed) Albert Kelsey, President.
The Architect's Service*

By A. F. WICKES

The purpose of this meeting of the Indiana Society of Architects and those architects of the state who are not members, is to have an afternoon of study. We are not here to discuss prices; we are not here to discuss the recompense that we are to get from the public; we are here to discuss our service to the public. We want to study our personal efficiency, our office efficiency, and our business efficiency toward our clients.

Sometimes we decry the fact that we are not appreciated. I wonder how much you and I appreciate other professions. Perhaps we are part of the common public when it comes to appreciation of the law or appreciation of medicine. Now, do we expect the lawyer or physician to exert an unusual appreciation of what our work is when that is the case? And isn't that about the public's attitude?

I think we have seen this from the small point of the telescope. I think we should begin to appreciate the public before we can ask the public to appreciate us in our work. Let us appreciate what the needs of the public are; let us participate in public work; let us be the thinkers of our community; then we shall be deserving of appreciation from the public.

We have asked for recognition at the hands of the public a great many times. I think all art has asked for recognition at the hands of the public, to be disappointed for centuries, in many cases. We have been disappointed for four years in the endeavor to get a license law passed.

But this meeting is not to discuss fees nor rewards, it is to discuss our relationship with and what we may give to the public at large, serving as professional men. Discussion of fees is the very least important thing of our whole problem.

If we stop to ask whether we are appreciated or not, why, we are lost. The man who stops to admire his own work is lost. The man who does not keep going on, stepping upward and higher and better and improving and changing his ways is lost; he is standing still. I don't know of any great physician who stands and asks the public if he is appreciated. I don't know of any really great artist who stands and hangs around the institute doors and asks if he is appreciated by the public. That's none of his business: it's a small concern of his. It is his duty to go on and do the best he can.

If we have chosen a life's work which entails a service to the public, then we are on a par with the soldier who enlists and surrenders his life to his country. It is no further will of his what shall be done with it. And if we go into our service to the public in the beginning looking only for compensation we are looking at the wrong end.

There is no reason why if a man makes good plans and good specifications—and it goes without saying that the architect should perform that kind of service—that the public should not be called upon to check him up. And to say that this man is a good architect and that man is a poor architect should not be necessary.

The public is interested in service, and if we had rendered the right kind of service there would never be any question as to whether the architect is holding his place as he should.

A great many times I believe it would be a pretty good thing to have an exhibition of what an architect's service to a community is constituted. We all of us think we make good drawings. Some of us do: I venture to say some of us don't.

I think I know what I ought to give for service. I give all I can. I don't think there is any stopping.

Another thing that endears us, I think, to our clients is that we may make an inquiry at least once or twice a year about a building we erected. Let's retain a little interest in that building. Let's let the client know that we are interested in the service that we rendered him some time ago.

We can make ourselves indispensable to the community in which we live if we will go at it in the right way and if you can make the client believe, the public believe, that the architect is indispensable to all building operations you may be certain that he is going to use you, because you have convinced him of the fact that he needs you.

At the meeting where the above quoted address was delivered, the discussion showed some diversity of opinion. We quote from Mr. Snader's remarks:

"I hardly agree with the idea that has been put forth (Mr. Wickes' address). I think that the idea is very desirable but it seems to me there is another side from which to look at the thing. It seems to me we are not appreciated on the part of the public because they do not know, because they lack something in their education, and it seems to me that in some way a campaign of education might be carried out."

Yes, as Mr. Snader suggests, the public should be educated, but we must not forget that the people will learn to expect good service and good architecture if it is given them regularly, will learn it just as easily as they have learned to expect gratuitous service and questionable practice among architects in those localities where such practices have been rather common. Most people can appreciate good service when it is given whether they know one architectural style from another or not. The client's respect gained by such service opens the way for his architect to influence him in the matter of good taste and good architecture. So after all the thing reverts to service and higher standards of architectural practice.

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*Extracts from an address at a meeting of the Indiana Society of Architects, Indianapolis, June 23, 1917.

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Architectural Education in England

THE THIRD ANNUAL CONFERENCE OF THE R.I.B.A.

At a time when we are bending our energies toward the mobilization of all of our resources for the prosecution of the war, when we are considering what contribution each of us can make and while we are thinking of how the life of England and the nations of the continent is directed alone toward the accomplishment of a single purpose, it is interesting and most significant to read two such closely related articles as "The Organization of the Architectural Profession" (in the British Empire), by Sidney Webb, LL.B. and a copy of the Journal of the Royal Institute of British Architects for May, 1917, containing "The Education of the Architect" (a discussion at the Third Annual Conference in February, 1917).

These articles are not only interesting because of the pertinent material which they contain, but they are even more interesting as showing that it is quite possible during such a time of stress to consider seriously the state of things as they exist and also at the same time to formulate a constructive program for future action.

Mr. Webb's article began in the Journal of June, and I will refrain from comment. Certain ideas expressed at the Conference, however, are well worth noting. In opening the Conference, Mr. H. B. Lanchester stated the educational problem very clearly. In part he said:

"In one sense the education of the architect cannot begin too early. It has been claimed that the faculty of observation essential in every branch of art must be encouraged as soon as it appears. It frequently is, only to be smothered by ill-devised educational methods at a later stage. The appreciation and comprehension of the facts by which we are surrounded, and their relationship measured in time and space, is the true object of education, and the observation necessary to acquire this should be in play throughout. Book studies are only useful in so far as they facilitate and quicken this. The substitution of book studies for the actual factorsof life is disastrous to mental development, but this is too often the effect of the conventional type of education. Of course, specialised training may come comparatively late, but if the previous instruction has been on sound lines not only will the special studies be more easily assimilated but the bent of mind will be much more obvious when it comes to the choice of an occupation. Apart from the cases when a youth is for extraneous reasons drawn into a profession for which he is unsuited there are far too many in which this occurs through lack of the means of knowing what his natural qualifications are, these having been obscured by a false system of education.

"Educationalists have begun to realize the deficiencies of the methods still too general and to grasp the fact that where learning is a drudgery the method of imparting it is to blame. Real education, adapted to the age of the pupil, is always interesting to him, and as he advances he is most anxious to arrive at the point at which he is taking part in useful work. This point need not be postponed until the definite adoption of a life occupation. The advocates of Regional Survey have shown that many useful things can be done in school, while the Boy Scout movement owes its growth to a popular rendering of the same ideal. Such a programme introduces contacts with life and work which are of the greatest value in developing initiative and in encouraging a point of view, so that the young no longer feel their future careers to be things remote and apart from the educational stage of life. They know more of the world at large and are better prepared to assist in the choice of their future work."

Particularly significant and rational is the thought suggested in these paragraphs:

"I am indebted to Professor Fleure for the suggestion that there should be a period of State service according to capacity, on no account necessarily military, in order that the functions of citizenship, in its broadest sense, should be appreciated. Whether this be practicable or not, in some way or other the sense of communal life as qualifying individual aggrandisement should be acquired. In regard to this, the altruistic aspect, one must not be thought to undervalue the teachings of religion when one affirms that they have not, as a rule, been able to dominate social relationships.

"To pass from the general to the particular—namely, the consideration of our profession and its educational needs—much as one would like to assume as a basis the type of preparatory education previously hinted at, this is at the present moment so rare that such an assumption will detract from the utility of our proposals. It is only practicable to start from the existing average, noting by the way the broader variations in antecedent training. Now this antecedent training usually falls short in affording no real knowledge of life and its realities, both material and social, so that professional education must endeavour to supply these deficiencies.

"Knowledge of actual and material conditions, as the simpler of these two aspects, comes earliest, and some of our technical schools deal fairly comprehensively with this, though there are still many districts where such preliminary training is inadequately provided for; while our examinations are deplorably defective as tests of this kind of knowledge. I am not exaggerating when I say that it might be possible to pass the Institute Examinations without being able to distinguish between a lump of lime and a piece of plaster, or a malleable casting and a wrought scroll.

"When we come to the question of design as an aspect of social economy the business becomes more difficult. The factors that influence the standard of beauty, a complex of traditional method and logical expression, are not easily balanced, and even our leading schools of thought are not altogether at one. Then again, even among the best archi-
In the encouragement of architectural training it is essential that renewed attention should be given to the appreciation of the conditions of modern life. Following the custom of the French, students should be taken by their professors to great modern buildings, there to observe the mysteries and working in being. They should examine a railway station, note the crowds to be accommodated, the volume of traffic and goods arriving by rail, the offices and business arrangements, the conveniences, the roads for vehicular traffic ancillary to the railway tracks, the thousand-and-one details. They should inspect the Parliament Houses, the cathedrals, the public offices and Government departments, the clubs, the staging of an opera as well as the design of the auditorium, the shopping centers, life in hotels, flats, and private houses. What does a measured drawing teach other than the scenic arrangement of doors and windows, with perhaps the application of column or pilaster? What can be gained by laboriously measuring the bay of a cathedral if the exterior purpose of the building is ignored?"

One would like to see the following paragraph turned into a definite educational program:

"Construction in these days is really simpler than it was in the past. We can dare more, build lighter, span greater openings and perform divers tricks of conjuring; but such performances do not prepare the way for our reception in good society. Neither will our audience applaud such actions if these antics are not part of a pithy plot. The Romans were the great constructors of the antique world, but their buildings in conception are unique, and they took care to present them decently. The skeleton of the human frame is not a beautiful thing, but the vigorous body in full development is, and Mother Nature wisely guards against incongruities by providing cartilage for ornament. The simpler the construction the greater the realisation of the idea; and whereas construction is variable, concept is always constant."

From the standpoint of education, one is jolted by this last statement. Does this suggest the proper basis for our teaching?

"In conclusion, gentlemen, perhaps it will not be inopportune for you to glance at the monograph of the New Pennsylvania Railway Station, which is familiar, but which illustrates my points more effectively than lengthy arguments. Here will be seen that combination of science and art in which the engineer humbly performs his part, and interprets the Piranesian rhetoric of the chief builder."

Mr. Beresford Pite, who spoke after Mr. Richardson, stated frankly that he could not "derive very much from the Chairman's address or Mr. Richardson's" (which proves that it was a real educational conference). He deals with a fundamental when he says:

"At the present moment architectural education is run with a constructive side and with an artistic side. This is mainly through the syllabus of the Board of Education and the educational scheme of the R. I. B. A. It is easy to rave at it, for it is hopelessly bad in theory. The construction and the art of the subject ought never to be separated. But, as a matter of fact, I think I am right in saying that there are no books that deal with these
ARCHITECTURAL EDUCATION IN ENGLAND

subjects as a unity. There is an abundance of books which deal with construction and which make the learning of construction simple, from the earliest to the advanced stage, and which follow the art of the builder and the art of the engineer progressively. There are a number of books also which deal with the external aspects of buildings, ancient and modern, which are themselves interesting and important. And it is with these two sources of supply that the teacher has to work. These books provide the text-books for the elementary and technical classes, they provide the text-books for the elementary art classes, and for the architect's office book-case. It is with the material of these works that the work of education is done."

Prof. F. M. Simpson discussed the possibilities of applying a system modeled upon lines parallel with the Beaux Arts Society in America and discussed its application to conditions surrounding the present English system of training.

Mr. Robert W. S. Wier read a paper, much of which was related to the subject of examinations and the registration of architects. It may be of interest to quote at length from his paper, since the subject of registration is now interesting many Chapters of the Institute.

"What I am principally concerned with is the fact that, in spite of all that has happened, in spite of the influx of the large body of protestants, examination appears to be more firmly established than ever. Blomfield has been your President, Newton is now, Lethaby is an active member, but what impression have they made on this question. Are they now agreed that it is the best way, perhaps to them the only way; if not, why did they not strenuously set out to alter the system radically?

"The other day I asked a friend, who is one of the examiners, and who himself passed in by examination about the time of the great controversy, whether the examinations went on much on the old lines. Yes, he replied, but they are much stiffer.

"These essays of twenty-five years ago argued against the principle of examination. The following are a few quotations from various essays in the book by different authors, now all members of the Institute—"

Blomfield:

(1) "The Institute examination as a means for the advancement of architecture is a farce and a sham."

(2) Again: "I have heard architects, whose experience entitles them to speak, say distinctly that this examination does not qualify young men to be competent assistants, much less competent architects."

Lethaby:

(3) "The so-called training of architects at the present time consists not in being taught their art but in learning more or less by rote out of books some facts about it when their art was an art."

(4) Again: "When the arts of building are all of them killed out finally, and the memory of their doing dead, who shall build them up again? Will being examined in architectural history, practising a mechanical system of drawing and acquiring the complete kit of all the routine of the profession give back to us the skill and delight of the craftsmen?"

"I could quote many others did time permit."

"And now we come to the point that I have been endeavouring to lead up to.

"To my mind practically the whole of the architectural training in this country is affected by the act that these qualifying examinations exist and that most of the young students are working with the avowed intention of trying to pass them.

"This is one of the greatest faults in the present system, and until it is remedied—and it can be remedied—there seems little chance of real progress.

"Sir Thomas Jackson has never wavered from the principles he laid down twenty-five years ago. The following views he expressed are as far as I know, still his to-day. He and Mr. Basil Champneys are, I believe, the only living representatives of that memorable company that signed the protest who are outside the Institute still.

"He says (p. xxiv.):

"It is difficult to overrate the mischief that is done to the architectural student by misleading him in his studies and making the passing of examinations his aim, instead of the acquisition of a sound knowledge of his craft. He studies not to know, but to pass; he thinks he can learn from books and drawings of things what he can learn only from things themselves; he mistakes archeology for art, and imitation for design: he is forced to push aside things he really cares for because they may not pay with the examiners, and to leave half-mastered subjects that interest him because it is time to cram up something else that is sure to be asked. These evil influences affect the teacher as well as the student. The highest kind of teaching,' says one great authority on education, 'which aims at formation of mind, cannot find free play for itself under a system which subordinates the teacher to the examiner. Such a system has a perpetual tendency to give a mechanical character both to the teaching and its results. Originality and freshness in the teaching is killed by the perpetual necessity of paying regard not to the subject that is to be taught, but to the examination that has to be passed.'

"It is quite possible, however, that so long as architecture maintains its present position as a profession, so long will examination in some shape or form continue to exist, and more so if registration becomes a fait accompli, which Heaven forbid!

"Further, the regulation and control of such examinations are likely to remain in the keeping of this Institute, acting in collaboration with other kindred bodies, but so long will the real and efficient training of young architects be cramped and ineffective.

"But there are other forces rising up, backed by a public opinion slowly but surely being enlightened on essentials.

"In various large provincial cities we now find flourishing municipal schools of art and craft in which the teaching of architecture takes an honourable place in association with the crafts.

"The London County Council are giving serious consideration to the question of training in architecture in association with the crafts of building. A fully equipped and wonderfully efficient school of building has been in existence for some time in South London, of which Mr. H. W. Richards is Principal and Professor Beresford Pite is Director of Architecture. A course of higher training might follow on either in connection with the universities..."
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or otherwise, and young architects passing through these schools would have the opportunity of working for a definite aim which will be attained through the merit of their work, and not by artificially set examination papers.

"Already the London County Council awards its Scholarships not on the results of examination papers, but on a careful consideration of the quality of the work of the term. It was my privilege a year and a half ago to act as an adviser and report on the work of candidates for L. C. C. Art Scholarships in this connection, and I was much impressed with the simplicity and efficiency of the system through which awards were given.

"Further, school work must go on in conjunction with practical training; by this I mean training in actual contact with real work, training under a competent practising architect, who will be required to allow time off in working hours for the student to attend classes and lectures, or engage in craftsmanship of one form or another.

"To again quote Sir Thomas Jackson (p. xxviii.):—

"Our proper field is not confined to the office; we are, or should be, still more at home in the workshop or the building sheds; our brethren are not the lawyer and the doctor, but the craftsman and the artisan; and if the architect should choose to be his own builder or craftsman, and carry out personally the works he designed, he would but be doing what was done by his predecessors, whose handicraft we now take for our model. If architecture is ever to live again amongst us the professional idea must disappear.'

"When I was very young and at the start of my training, I had to go at 8 o'clock to the old Drawing School at Edinburgh and do an hour's work before proceeding to the office. In Scottish universities the lectures begin at 8 a.m. summer and winter, and students of Law, for instance, go to lectures before office hours much as we used to do. I fancy a similar system pertains in France. Why should it not be possible here? We shall have to lead a more strenuous life, work harder and start earlier, after the war.

"But what will happen to this Institute under such new external conditions. It may have to revert to its old pre-examination times position, referred to by Mr. Reginald Blomfield in one of the essays. He says:—

"The old position of the Institute was safer. It had its fine library, its Royal Charter, its considerable financial resources. It had all that was necessary to make it a center of scholarly discussion and research on questions of architecture, and an official headquarters of reference on points of professional procedure. . . . But it has stepped outside this useful and honourable position; in its solicitude for architects, it has aimed a dangerous and insidious blow at architecture itself.'

"I should just like to read you a further quotation from Sir Thomas Jackson (pp. 230-232) on the possibilities of the future. Some of you may perhaps call the idea verging on the Utopian; for my own part I believe in its thorough practicability and efficiency.

"Imagine, for instance, some National School of Architecture, to which anyone connected with building could have access, whether he intended to be an architect, or a builder, or a craftsman in one of the arts connected with building. Let there be no conventional distinction of profession, no barriers of etiquette to divide the students.

Furnish the school with competent teachers and appliances for study in every branch of the art. Let it be possible to learn all the mystery of good construction, but let construction never be taught except in connection with design, nor design except in connection with the proper and natural use of material. Let the school be regularly visited by those who are recognised as masters of the art, to whom the paid teachers should be subordinated, and to whom the students could look for direction, advice, and correction of their taste. Let the students have every opportunity given them of seeing work actually done, and of themselves putting their hand to it. For those who have no workshops at home, which the young builders would naturally have, let there be attached to the school, workshops where the process of every handicraft could be demonstrated, where masonry, carpentry, joinery could be practically taught, and a forge where iron could be wrought.

Drawing of a practical kind should, of course, be taught, so that every student might be able to set out and explain his ideas to the workmen or himself. Here those who mean to be ordinary builders might, if they please, stop. The school would, of course, be graduated, and it would not be necessary or desirable that everyone should go through the whole course of artistic training. We do not want our finer tools to do our rougher work, and we do not employ our most accomplished artists on ordinary occasions.

The great thing would be that up to this point all should have been trained alike without distinction, and that the builders should have associated with those who aimed at higher flights, and should have shared in the same training under the best masters of the art. In this way we might hope to introduce into the building craft good taste, knowledge of design, restraint, and appreciation of simplicity; and with these qualifications, which would in time become traditional, we might hope for better things in the ordinary class of buildings for which no great architectural effort is needed. We might, in fact, hope to raise our ordinary street architecture to the level of that of the last century, when, without any affectation of architectural effect, the sober brickwork and graceful joinery, full of pleasant fancy and quiet imaginations, combined to make some of the most lovable homes in England. Above all, let there be no folly of certificating or labelling the student as proficient at any period of his career. Let him remain a humble learner all his life; and let the school be open to him at any future part of his history whenever he wants instruction or advice, or desires to freshen his interest by contact with younger aspirants.'"

The last speaker, Mr. H. De Collerville, touched upon a phase of the subject which is particularly pertinent here in America; in part he said:

"Might I suggest that before settling on any definite scheme of education it is important that the duties to be undertaken or accepted by the profession as its legitimate share of service to the community should be defined. From my own point of view I should like to see taken up as part of our profession all professional subjects both of art and science as usually applied to controlling the builder.

"We should strive to show the public that the architectural profession is capable of exercising all the professional functions connected with building operations with-
out recourse to outside professions and gain their respect and confidence by that method.

"Collaboration among various architects, all experts in various branches of an intricate profession, would be in accordance with modern requirements and need not necessitate that those connected with the scientific side of the subject should be termed 'engineers.' We lose confidence in ourselves by the adoption of this term, while by allowing the educational side of such subjects as reinforced concrete to pass into other hands, we invite encroachment on our legitimate province of work. We have seen in connection with the present crisis that the Government have been inclined to discount the services of architects, and it is a regrettable thing that at the present moment, when so much building work is required for Government purposes, the Professional Employment Committee should have to find relief work for apparently unwanted architects, by placing them in temporary positions in other callings. If the Institute could be induced to interest itself in all the problems connected with building, including the engineering sciences which are developing on all sides, the educational bodies would be bound to reflect the views of the main body on this matter, and considerable scope could eventually be offered to young architects whose inclinations invite them to specialise in such subjects as reinforced concrete; and this would relieve congestion and thereby better the lot of those who are more gifted for planning and design, while at the same time it would shut out competition from commercial firms encroaching on professional work."

What Messrs. Blomfield, Lethaby, and Jackson have said regarding the incompleteness or inconclusiveness of examinations may be perfectly true in general—we may admit that a set system of examinations tends directly towards developing a superficial sort of preparation—yet it does not necessarily follow that a system of examinations which follows a system of preparation is doomed to complete failure. We should not confuse this question by the introduction of a false assumption. All depends upon the nature of the preparation and the nature of the test. Both may be narrow, cramped and academic, or both may be broad, liberal and humanizing. Just now tests and examinations are looked upon by many with a certain degree of disfavor. I am not inclined, however, to condemn the test utterly. I merely condemn the relative value which has been assigned to it. When a subject has been made sufficiently vivid and interesting, when it has become a matter of personal interest with the student, it matters little whether or not a test follows such preparation. In the final analysis all depends upon the scope and the content of the courses and not upon the test itself.

The test in itself may provide but meager evidence of a man's ability; surely it will neither by itself develop architects or an architecture; but it may be argued with reason that a well-organized examination may play an important part in the development of education.

The test of education is found in experience, and therefore if we approximate in our preparation and in our tests the conditions of experience in which a worthy ideal is made vivid as a goal of endeavor, we shall provide for the student the conditions for his certain advancement.

The practical value of registration lies not so much in the usual conception of its value (the granting of a license) as it does in the condition that by such an act we focus the attention of all those who intend to practise upon the entire range or scope of the interests which lie within the architect's field of work.

A very large proportion of those who are practising as architects today, and in a way are preforming the functions of the profession, possess a comparatively limited knowledge. Some are versed in matters relating to "design," others in "construction," others in subjects of a technical or mechanical nature; but there are comparatively few who could stand a test in the entire field of the architect's activities.

Now the reason for this is that education in architecture has been limited in its scope and certain phases have been omitted, while others have been overemphasized. If a set of examinations can be developed which will approximate conditions of practice, it will have the value of indicating to the student more accurately than do our present methods of education precisely what is the nature of his chosen calling.

To look upon technical education or upon registration as the sole means whereby through the architect an adequate architectural expression may be achieved, is to greatly overemphasize these factors. Registration, with its accompanying preparation and its test of ability, is I repeat, but a method of indicating more clearly to those who intend to practise architecture that they must be prepared to cope with certain conditions which obtain in the modern practice of their profession. In the same way it is a formal method of saying to the public that a working knowledge of a certain definite kind is deemed by the profession itself to be essential in the practice of architecture.

Our methods of technical education in architecture are comparatively new: surely it is an experiment and it is conceivably all wrong. Our tests and our methods of examination and registration may be crude and faulty, and they may fail utterly to define the nature of the architect's work, yet there is a saving clause: In this age of specialization any attempt, however crude, which looks toward the development of knowledge in a broader field of related interests, which tends to widen the student's horizon, which brings him into closer contact with experience may be the means of bringing about that integration of expression which is essential to indigenous art.

F. L. Ackerman.
Obituary

Henry Vaughan
Fellow of the Institute, 1891
Died June 30, 1917
Further notice later

Emmanuel Louis Masqueray
Elected to the Institute, 1906.

Mr. Masqueray was born in Dieppe, France, in the year 1861. He was a pupil of Laisne and Ginain, and entered the Beaux-Arts School in 1879. In the year 1880 he was awarded the Deschaumes prize, and again in the following year the Chausdaigues prize, and to him we owe one of the first Beaux-Arts ateliers in New York City, which he founded in 1893.

It was at the suggestion of Mr. Carrère, who remembered him as a fellow student at the Beaux-Arts, that he came to this country. He was in our office from 1890 to 1892, so that my personal recollection of him goes back to the days when we were both young men, a quarter of a century ago.

As a young man he was ambitious and full of enthusiasm, and this youthful enthusiasm never left him in his later days. From our office he went to Richard M. Hunt, where he was held in the highest esteem. He was also in association with D. Everett Waid. He became prominent in connection with the Exposition of St. Louis in 1904, where he executed most of the garden and landscape work, cascades, decorative bridges, etc., also the Horticultural Building.

It was at this World's Fair that he was discovered by Archbishop Ireland, through whose influence he settled in St. Paul. While in St. Paul he designed their Cathedral, also the Pro-Cathedral of Minneapolis, the Church of the Incarnation of Minneapolis, and the new Cathedral of Sioux Falls. St. Paul abounds in examples of his work. He was honored by the state of Iowa, whose official authorities invited him to make designs for the beautification of the state capitol at Des Moines.

Mr. Masqueray never married. I can always remember his devotion to his mother, the only member of his family. My early recollection of him is as a comrade and fellow worker. The friends of his later life tell me he never lost his kindly and charitable manner, anxious to please, careful never to offend, and that one feature in his life, well known to all who were acquainted with him, was his continuous and kindly bearing toward his aged mother. He was to her the most unselfish and most devoted of sons.

The entrance of French culture into American life as a dominating influence began, of course, with the work of Richard M. Hunt, who was followed to this country by the men who were the first members of the modern Beaux-Arts group. Among these men, most of whose names have become famous in the history of American architecture, Masqueray's is one of importance. He was one of those who brought the academic training and culture of the Beaux-Arts to the fertile soil of America, and as we now contemplate the varied and rapid development of architectural ornament in this country, we must ascribe to this early group the influence that is second only to the powerful movement of the Georgian group in the pre-revolutionary days of the then narrower American community.

Looking at the period when Mr. Masqueray came to this country, from our present viewpoint, it is difficult to measure adequately the influence of that enthusiastic coterie of young men, either of French birth or French training, who were pioneers in what is now recognized as the modern school of American architecture.

After Mr. Masqueray left New York he carried into the upper Mississippi Valley the force and influence of his firmly held academic culture, and it is difficult to measure the effect of his trained art upon the communities of the Valley. In communities which were not always sympathetic he maintained with a splendid persistence his well-founded ideals of the architectural art and has left enduring materials the indications of his true culture.

On May 26, 1917, ended the life of our friend and fellow worker, Emmanuel Louis Masqueray.

Herbert Langford Warren
Fellow of the American Institute of Architects, 1891.
Died, June 27, 1917.

Herbert Langford Warren, professor of architecture at the Department of Architecture at Harvard University, died suddenly, June 27, at his home in Cambridge at the age of sixty years. He was born in Manchester, England, March 29, 1857. The first nineteen years of his life were spent in England and on the Continent, his schooling being obtained in England, at Gymnasia of Gotha and Dresden, and at Owens College, Manchester. His family returned to America in 1876, and after two years' study at the Massachusetts Institute of Technology, and four or five years in the office of H. H. Richardson, he again went abroad for a year's travel, after which he returned to open an office in Boston, and later, in Troy, N. Y., where he built the Orphans' Asylum and other buildings. In 1893 he was appointed instructor in architecture at Harvard, assistant professor in 1894, and professor in 1899. He has been continuously directing head of the School at Harvard, the beginning of which was marked by his first appointment as assistant professor.

On November 8, 1887, he married Catherine Clark Reed, daughter of the Rev. James Reed, of Boston, and is survived by his widow and their four children. He was a Fellow, and one time a Director of the American Institute of Architects, and for several years Secretary of the Boston Chapter. Throughout his connection with the Department of Architecture at Harvard he has kept in touch with active practice as a member, in earlier days, of the firm of Warren, Smith & Biscoe, in recent years Warren & Smith.
THE professional work and achievements of Herbert Langford Warren are known to his brother architects, but only those few who were closely associated with him know how much of his time and strength and his talents he gave, since this war began, to the work of awakening the conscience of the American people to the justice of the cause of the Allies. From the very beginning of the war Herbert Warren saw clearly the moral issues involved, and that these concerned not only the interests of America but the very "future of civilization," to quote his words. Holding such a belief, he could not remain passive. He joined a small group which primarily had for its object the dissemination of literature throughout the country, by articles in the press and pamphlets and in other ways that would create a knowledge of the issues of the war and awaken the American conscience. Warren himself contributed many articles and helped by counsel and in other ways. To understand his activities and personality it is necessary to say something of the work that was done.

In the early months of 1915 this group of men felt that inasmuch as the sentiment of Americans was not correctly represented by the official attitude of neutrality which our Government felt constrained to adopt, the American conscience should not remain silent when such great moral issues were at stake, but should speak out and give some public formulated expression of its belief. At this late date, when we are at war and when the whole psychological setting is changed, this seems a simple and natural thing to have done. But at that time there was a great diversity of opinion regarding the wisdom and even justification of this course, and many leading men who later became outspoken hesitated and held back. It is difficult now to understand this hesitation. But we must remember that though it was then generally recognized that the vast majority of unhyphenated Americans were in sympathy with the Allies, the Government was neutral. This fact had a dominating moral influence with many.

Conferences were held with a number of prominent men in Boston and New York, all strong pro-ally in their sympathy. Opinion was about evenly divided. For one reason or another some thought that individuals should remain silent so long as our government was neutral. With many I have always believed it was a case of "cold feet." Warren never wavered in his conviction that Americans ought no longer to remain silent, that we owed it to ourselves to tell the peoples of the allied nations what our real sentiments were, thus answering the appeal of the "German professors."

Finally, after much consultation, an "Address to the People of the Allied Nations" was drawn up. The signatures were to be limited in number and so far as possible to representative Americans in every state of the Union. It came to be known as the "Address of the 500." Warren brought all his enthusiasm and energy to this task which for many reasons was no easy one. While the argument and matter of the "Address" were a composite of several minds and underwent, as must always be the case in such circumstances, several revisions, the phraseology and composition were Warren's. He wrote it. I think anyone who reads it will agree that in simplicity of style, purity of English, felicity of expression, and logical...
exposition of facts it is a very remarkable document. The
terrible presentation of the argument, the crushing con-
demnation of Germany, and the expression of lofty ideals
which it breathes were all enhanced by restraint of state-
ment. These characteristics were much commented upon
by the foreign press. As a contribution to the literature
of the war it is one which is of more than ephemeral value.
The task of mere presentation of the brief for Americans
and the Allies was difficult because it was necessary to
avoid all criticism of our government and every expres-
sion which might invite dissent or criticism from expected
signers and the public, and at the same time, to incor-
porate strength. In consequence of the skill with which
he drafted the address Warren was later frequently called
upon by his associates to write other statements and
resolutions for publication. His command of English
and power of exposition were seen to be quite unusual and
were accordingly appreciated and used.

The final history of the “Address” would make an
interesting story in itself, if this were the place to give it.
I wish here merely to point out Warren’s connection with
the work which in itself was formidable, more so than one
who has not attempted such things in times of public
excitement, when opinions are divided, can imagine. The
task of obtaining signatures of men prominent in and
representative of their several communities throughout
the United States was no light one. Some who were in
whole-hearted accord with the “Address” hesitated to
sign it on grounds of expediency or for other practical rea-
sons, as they averred. Some distinguished men, known as
representative Americans—our “first citizens”—through-
out the United States, were unwilling to sign although
they were known to be strongly pro-ally in their real
sympathy. Since then I have often been unable to restrain
a smile when some of these men, at a later period, have
received great public applause because of their outspoken
advocacy of an anti-German policy. But it requires little
courage to follow. The presidents of our important un-
iversities and colleges were particularly desired to endorse
the movement with their signatures. Most of them re-
sponded with alacrity, but the names of others are con-
spicuous by their absence. A study of the signatures is
interesting from the names which such an examination
shows to be absent, although, of course, it should not be
forgotten that in some instances, by inadvertence, the
sending of an invitation was overlooked.

On the whole, however, the “Address of the 500” met
with an enthusiastic response from nearly everyone in-
vited. It was the exceptions that were conspicuous.

Securing simultaneous publication in England, France,
and throughout the United States in face of the refusal of
the Associated Press to handle it was also a difficult task
and involved much time, labor, and persistent endeavor.
The “Address” was later extensively published in Russia,
Italy, and Japan. Its effect in France and England, in
particular, in causing a realization of the existing Ameri-
can sympathy for the cause of the Allies, was most happy.
A grateful reply by 500 French Intellectuals was one
response.

When at a later date the American Rights League was
formed, Warren was one of the original founders and be-
came one of the executive committee. The Boston Branch,
OBITUARY

unusual purity. He certainly had the faculty of expressing his views in the numerous conferences that were held where lively discussions of debatable questions sprang up, with remarkable clearness and force.

Notwithstanding all the disappointments and rebuffs, the friction and inefficiency bound to be experienced in the course of work of this kind, I never knew him to show impatience, or irritability, or discouragement, or uncharitableness toward those who did not come up to his standard. It was a delight to be associated with him, it was an object lesson to work with him, it was a privilege to have known him. "Forsan haec olim meminisse juvat."

One cannot help feeling regret that he could not have lived to see the end of this great world struggle for righteousness and civilization by which his heart was so deeply moved and for the success of which he so fervently hoped and prayed—gave all of himself that he could give.

It is impossible to determine the influence of his personality or of his activities in the field I have sketched. But that it has been of large measure no one can doubt. And so remembering him, I reverently take off my hat to the memory of Herbert Langford Warren.

Morton Prince.

Book Reviews

Color and Its Applications. Light and Shade and Their Applications. By M. Lukiesh. Published by D. Van Nostrand Co., 35 Park Place, New York City. $3 each or $5 for both volumes.

A superficial examination of this book of 350 pages of highly technical discussion may not reveal much of seeming interest or importance to the colorist or architect, but one soon finds on more intimate acquaintance and, despite such formidable words as "spectrophotometer" and worse, much information of great value and intense interest. To quote Mr. Lukiesh:

"The artist has often shown an antipathy toward science, apparently under the impression that art goes further than the mere mixture and grouping of colors and shadows and produces effects beyond scientific explanation. By no means is it contended here that art can be produced by 'rule of thumb' or by scientific formulæ. Nevertheless, facts are the basis of all art and, while scientific investigation has not yet revealed all its hidden secrets, scientific explanations can be presented for many supposedly mysterious effects."

Except for the assumption that "art" and "painting" are synonymous, this is quite true; Mr. Lukiesh often succeeds in making it quite obvious, and anything that robs any art of its mystery is very much worth while!

Color discussion is often befogged by ambiguous terminology, and the chapter on "Color Terminology" clears up many points. The chapters on "Color Mixture" and "The Effect of Environment on Color" should be of much help to color workers. The chapter on "Color in Lighting" is of distinct value to architects and decorators, while the discussion of "Color Effects for the Stage and Displays" points the way into a field which has as yet been explored only on the edges. "Color Photography" is a clear exposition of the various processes of photography in colors; "Color Phenomena in Painting" and "Color Matching" contain useful information, while those interested in the alleged relation between color and sound will be interested in "The Art of Mobile Color." A description of the various colored media obtainable for experiments closes this rather formidable but interesting volume.

The companion volume on "Light and Shade" is neither as interesting nor as convincing as the first on "Color." Although some of the illustrations are valuable, much of the material in the second book has been more interestingly treated in the first. It is difficult to see how the chapters on "Light and Shade in Sculpture; in Architecture; in Painting; in Stage-Craft," can be very helpful in a constructive way to either the sculptor, the architect, the painter, or the designer of stage settings. The author's use of "shadow" and "cast shadow" is hardly an improvement over the more familiar use of "shade" and "shadow" as commonly understood by draughtsmen. The chapter on the application of light and shade in architecture convinces the reader that the customary method of designing for shadows cast by rays of light parallel to the diagonal of a cube is by far the nearest approach to average conditions in nature, but Mr. Lukiesh does not mention this custom. The last chapter, "Light and Shade in Lighting," shows the need of very careful study of this subject by and the value of thorough cooperation between architect and illuminating engineer, and contains some good advice and suggestions.—B. J. L.

The Livable House, Its Plan and Design. By Aymar Embury II. Published by Moffat, Yard and Company, 130 West 32nd Street, New York. $2.50.

In this book of four chapters Mr. Embury speaks sensibly, logically and interestingly about the building of the livable house of moderate size. First, he discusses the necessary preliminaries involved, then styles and the choice of a style, next, the requirements of the plan, and, finally, materials and their comparative good and bad qualities. All this discussion is practical, very readable, and not in the least dry! The volume contains nearly a hundred illustrations, for the most part delightful full-page photographs of pleasing, successful houses, both old and new. Mr. Embury's discussions of the why and wherefore of certain styles and their characteristics, and of materials and methods, are both interesting and illuminating. Altogether, this book of 200 pages offers much information and inspiration to the prospective home builder and to his architect, to whom the small-house problem is perhaps the least remunerative but one of the most fascinating in his practice.—B. J. L.
The Situation in the Building Industry

At its last meeting, the Kansas City Chapter adopted a resolution to request the Government to investigate the present high cost of building. Attached to the resolution was a summary of prices of certain materials during the three-year war period, the rising costs of which have been accelerated by our own entrance into the struggle.

Accepting the mounting price of steel as a conspicuous reflection of the many factors which the war has injected into the whole industrial situation—profit-taking through unusual opportunity, transportation congestion, labor cost and labor shortage—we may await the result of the Federal Trade Commission’s investigation of steel prices with confidence that it will throw much light upon a situation which is now so obscure as to engender and nourish suspicions. The President, in his statement of July 12, frankly stated that profiteering is not only crippling the prosecution of the war but, in many lines, is materially restraining industrial activities, the successful continuance of which is just as essential in providing the money to pay for the war. As in every calamity the profit-takers are busy rifling the pockets of those who are helpless to prevent it.

But the general condition is well summed up in the current Atlantic by Mr. Sidney Webb, for we may accept his narrative of the economic evolution in England as closely resembling what is bound to happen—part of it has already happened—in the United States.

The great problem in war-making, as in war-prevention, is to so distribute the cost that none shall profit but each shall pay according to his means and thus share inexorably in what is no longer disputed as a great national waste. Arrayed against any such solution is a pretty large element—an element which has so long regarded business as a profit-making rather than a service-giving function—that it is idle to expect any instant reversal to a truly patriotic spirit. To that element, profits take precedence over all things—even national peril! Let us recognize these things and not seek to cover them up as the weaknesses they are—but let us also admit that we shall not be able to correct them, except in a partial degree, by governmental investigation and restriction.

The building situation is clear: No work should be done which would hamper the work of war preparation and prosecution. On the other hand, it is, as the President plainly states, of the utmost importance that all industry be kept moving in close parallel to the true demand for legitimate needs. The country needs buildings of all kinds. How shall it proceed in order to meet that need in the fullest measure with no impairment of the production of war material? The solution of that question depends, first, upon the final calculations of the Government’s present and future needs for war as a basis upon which to compute the price, kind and quantity of building materials, labor and transportation available for building, and, second, upon that form of patriotism such as will inspire all those in control of the manufacture and distribution of building materials with a desire to make a healthful building program possible. Given that desire, the question can be handled without any governmental investigation. It would be far better if, instead of tempting and incurring a price-regulative fiat, which has not worked out in other countries, manufacturers and distributors could meet and agree upon a patriotic basis.

All forms of production in this country are represented by well-organized associations. Why cannot these highly systematized forces be put at the service of the Nation instead of remaining either inactive or selfishly occupied with their own particular affairs? While it is no doubt true that some organizations of the kind described have studied the question from the unselfish point of view, the amount of activity of that kind seems lamentably small in the fact of the President’s urgent request for coöperation. Here is an opportunity to make such a demonstration of patriotism as the President has asked for.

Our suggestion is this: That every such organization meet and consider in what manner the industries it represents can be put wholly at the service of the Nation—and by wholly we mean just what the President means. We now know that the war will be won, not by the heroism of men but by the perfection of organization. Who can contribute more to such an end than those who have spent years in organizing the industries of our country into the strong group associations which now so widely obtain? It would seem pathetic if we cannot profit from England’s example! Why wait for the Government? Why not meet it more than half way?
Structural Service Department

In connection with professional societies and organized bodies working toward the improvement of building materials and methods, and the following Committees of the Institute:

**BASIC BUILDING CODE**
- WILLIAM B. ITTNER, Chairman... St. Louis
- W. W. TYRREY... Minneapolis
- G. F. A. BRUEGEGEAN... St. Louis
- OWEN BRAINARD... New York
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**FIRE-PREVENTION**
- ROBERT D. KOHN, Chairman... New York
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- JOHN R. ROCKAR... New York
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- FREDERICK W. PERKINS... Chicago
- JOSE EVANS SPERRY... Baltimore
- J. A. F. CARDIFF... New York
- GOLDWINE GOLDSMITH... Lawrence, Kan.
- JULIUS FRANKE... New York

**MATERIALS AND METHODS**
- THOMAS NOLAN, Chairman... Univ. of Pa.

(Each Chapter has a corresponding member who is chairman of the Chapter Subcommittee)

July, 1917. Serial No. 7

A part of the service of this Department will be to furnish inquirers with additional information, titles of books, names of authors or publishers, copies of articles, or in any way to afford help to architects wishing to ascertain the latest data available in connection with any material or method. For this service, address the Journal of the A.I.A., the Octagon, Washington, D. C. The service is free, except where clerical expense is involved, in which case a small fee will be charged to cover actual cost. The inquirer will be advised of the amount of the fee before any research work is undertaken.

The Journal of the American Institute of Architects
The Octagon
Washington, D. C.
This, the second of the Mechanical Equipment group of four issues, is devoted to the utilization of gases and vapors in and around buildings. The various gas interests of the country and architects and owners as well are, in this connection, greatly concerned with the proper installation of piping to make available the manifold uses to which gas may be put. These are potential as well as actual, and emphasis has been laid in this presentation on: first, the feature of supplying buildings with gas for all purposes; and, second, the proper piping to secure adequate service throughout.

In the existing dearth of consulting engineers on gas equipment for buildings, the national associations mentioned and the local organizations, of which there are many, may be relied upon to supplement the information given and to cooperate in carrying forward the various recommendations described.

The next issue will treat of "Plumbing," and the following issue of "Heating and Ventilation."

INDEX TO SUBJECTS TREATED IN THIS ISSUE
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7E Piping Buildings—Materials, Methods and Cost.
7F Gas and Its Utilization in Buildings.
7G Properties, Power Equipment and General Uses.
7H Gas Appliances in General.
7J Space Heating by Gas.
7K Water Heating by Gas.
7L Cooking and Hotel and Domestic Appliances.
7M Illumination—Fixtures, Equipment and Ignition.
7N Illumination in General.
7N1 Illuminating Engineering Society.

7A1 Gas Societies and Associations
7A2 American Gas Institute.
Secretary: George G. Ramsdell, 29 W. 39th St., New York City.
(See also "Other Gas Organizations" (7B) for those affiliated.)

Publications:
(a) "Proceedings," published annually.
(b) Certain committee reports of an exhaustive nature are published separately, especially those relating to standardization of methods or materials.
(c) Of this class the "Gas Chemists' Handbook" is a notable example.
(d) "Standard Specifications for Cast Iron Pipe and Special Castings." These embrace the results of work which covered a great many years and was first started by the Society of Gas Lighting about 1890. The American Gas Light Association reported a new standard in 1906, and the American Gas Institute in 1911 and 1913 adopted these standards. (See 7E3f.)
(e) Monthly bulletin entitled "Gas Institute News." Contains an educational article in each issue, which articles when completed will form a textbook on the manufacture and distribution of both coal and water gas.
The "Proceedings" and "Gas Institute News" are furnished free to members.
(f) "Bulletin of Abstracts." A classified record of the best technical articles appearing in the domestic and foreign journals, arranged for filing in card-index form.

The Institute is the national technical gas association, its membership embracing the prominent gas engineers and managers of the country. The technical work is handled through committees which also secure papers and submit the results of their work in the form of reports for presentation at the annual convention. These are published later in the "Proceedings" each year.

In addition to its technical activities, the Institute has also taken a leading part in matters of importance pertaining to the relations of the gas industry to the public, working through its committees in cooperation with various public service commissions and regulatory bodies.
STRUCTURAL SERVICE DEPARTMENT

7A3 National Commercial Gas Association.
Secretary: Louis Stotz, 61 Broadway, New York City.

Publications:
(a) "Proceedings" of annual meetings.
(b) "Monthly Bulletin." Contains papers, discussions, and general information. One department is devoted to "Gas Literature for the Busy Man," and gives a list of journals which will be found valuable if kept for reference. Subscription, 50 cents per year.
(c) "Industrial Fuel Reference Books." A series of pamphlets issued during 1916 and 1917, dealing with the "Application of Gas" to various needs in the industries and within buildings. Price, from 30 cents to 50 cents each.
(d) "Utilization of Gas Appliances." A series of eleven pamphlets, covering in a most thorough manner the development, construction, and installation of all domestic fuel appliances. Price of complete set $1.50.
(e) Publications entitled "Lessons," which accompany the "Practical Gas Education Course" elsewhere referred to. Subscription rates given on application.
(f) "The Gas Equipment of the Home." 48-page illustrated booklet giving information on the many uses of gas in the home. It treats of the following:
1. Plan of House Showing Piping Outlets.
2. Gas Appliances for Each Room in the House.
3. Hygiene in Gas; Its Aid in Ventilation.
4. Modern Gas Lighting; Treatment of Different Rooms.
7. Outdoor Residence Lighting.
8. Flue Connections.
12. Refuse Destroyer.
15. Refrigeration by Gas.

7B Other Gas Organizations

The National Commercial Gas Association and the Society of Gas Lighting have no affiliated associations. The following associations are affiliated with the American Gas Institute: Illinois Gas Association, Horace H. Clark, Secretary, 1325 West Adams St., Chicago, Ill.; Indiana Gas Association, James W. Dunbar, Secretary, New Albany, Ind.; Iowa District Gas Association, T. B. Genay, Secretary, Des Moines, Iowa; Michigan Gas Association, Clark R. Graves, Secretary, Lansing, Mich.; New England Association of Gas Engineers, N. W. Gifford, Secretary, East Boston, Mass.; New Jersey State Gas Association, O. F. Potter, Secretary, Public Service Gas Company, Newark, N. J.; Pennsylvania Gas Association, L. R. Dutton, Secretary, Wyncote, Pa.; Wisconsin Gas Association, Henry Harmon, Secretary, Milwaukee Gas Light Company, Milwaukee, Wis.; Southern Gas Association, E. D. Brewer, Secretary, General Gas Light Company, Atlanta, Ga.

There is also the Society of Gas Lighting, which was instituted December 1, 1875, and therefore is one of the oldest of the gas associations, but is more of a social organization than a technical one. George S. Ramsdell of New York is secretary.

There is also the Natural Gas Association which devotes its activities to considerations affecting the distribution and utilization of this product of nature.

7C Supplying Buildings with Gas

Dismissing from present consideration the properties, manufacture, and distribution of natural and artificial gases (which will be elsewhere referred to), the matter of supplying all buildings with gas for the fullest utilization thereof, whether for illumination, fuel, power, or heat, is of the utmost importance to architects, builders, and all occupants.

For data on materials and methods of piping buildings for gas see 7E1, 2, and 3.)

1. A committee of the American Gas Institute, then called the Committee on Piping Large Buildings for Gas, presented at the annual meeting in 1914 a report of much interest. This report is incorporated in the Proceedings (7 A4) for 1914, and is separately printed (7 A5).

The following are given for their suggestive value:
"As a purely financial investment it cannot be denied that the more complete the service that can be offered the more valuable as a rental proposition the building will become."

"Unless, therefore, the building is piped throughout on erection, this lack of provision may become a serious handicap as far as the rental feature is concerned and may become a cause of loss of revenue."

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Service Department, previous to the inauguration of same, took advantage of an invitation to prepare a paper for the Mid-Year Conference of the National Commercial Gas Association, in June, 1916. Therein, the following reference to the subject was made:

"A National Basic Code, with a piping schedule of minimum standards for sizes, lengths, and weights would, therefore, work to the great advantage of all good master plumbers and contractors who would be enabled to estimate under stable and equable conditions and to install their work without being at the mercy of varying individual judgment as to 'proper sizes,' etc."

The piping schedule which your Association has this year adopted is an important step in the right direction. I feel much honored to have had, as the Consulting Architect on Sweet's Catalogue Service, a hand in its preparation, and I hope that it may be taken up and criticized by the American Gas Institute, the American Institute of Architects, and other interested bodies, and be thus used and later adopted. But even as it is, if put into practice, I have no doubt as to its value. It has been the recognized authority as to standards of construction for electrical utilization installations within buildings, and the National Electrical Safety Code which the Bureau of Standards developed through an unprecedented cooperation of the electrical industry, and has recently published. The Gas Safety Code will thus have Part 9 of particular interest both to the steel industry and to the electrical industry, and has bottled-gas systems (Pintsch, Blau, Gasing-head gas, etc.).

The first and most necessary step in our cooperation is that you furnish architects with information as to methods of installation for the piping of gas in all buildings. What form can this information take?

"I would place at the very head of the list a 'National Electrical Code' in the gas industry. That is a misnomer, of course, but it will illustrate what I mean; namely, one dominant controlling factor in the installation of the arteries of service."

"A National Basic Code, with a piping schedule of minimum standards for sizes, lengths, and weights would, therefore, work to the great advantage of all good master plumbers and contractors who would be enabled to estimate under stable and equable conditions and to install their work without being at the mercy of varying individual judgment as to 'proper sizes,' etc."

The piping schedule which your Association has this year adopted

7D1 The Proposed National Gas Safety Code

(Note.—The following information concerning the Code has been especially prepared for the Journal by the U. S. Bureau of Standards.)

(a) For some time the U. S. Bureau of Standards has had a presentation a National Gas Safety Code which shall cover a corresponding range of subjects and accomplish the same ends in safety to life and property as both the National Electrical (Fire) Code, which has for many years been the recognized authority as to standards of construction for electrical utilization installations within buildings, and the National Electrical Safety Code which the Bureau of Standards developed through an unprecedented cooperation of the electrical industry, and has recently published. The Gas Safety Code will thus have a double function, namely, fire-prevention and protection to life. The hazards which result from the manufacture, distribution, and utilization of gas are of such nature that generally the fire-hazard and the life-hazard cannot logically be separated. It is desirable, therefore, that, in discussing any phase of the general subject, both the fire-risk and the hazard of life should be recognized by the Code, and that rules be drawn to minimize both in so far as is practicable.

(b) The Bureau of Standards is carrying out this investigation and in the preparation of the Code desires to serve as a national coordinating agency to the end that the resulting Code will be acceptable and adequate, not only from the standpoint of the user of gas, but also for the casualty and fire insurance interests, the gas companies and their employees, and the gas appliance manufacturing and selling interests. Because of the wide variety of problems which arise in the work in different parts of the manufacture, distribution, and utilization of gas, and also because of the varied nature of the gases in commercial use, it has seemed desirable to arrange the Code so that each part, in so far as practicable, be addressed to a particular interest or group of interests and be convenient for their use. The Code is therefore divided into ten parts as follows:


(c) Parts 1 and 2 deal respectively with the production of manufactured gas and its distribution to the premises of the customer. They are therefore primarily of interest to the gas companies and their employees. Part 3, having to do with the design and construction of gas-consuming appliances, is addressed to the makers of such apparatus and to those handling it either in a wholesale or a retail way. Part 4 deals with gas-fitting and is primarily addressed to the gas-fitter or plumber who is engaged in the installation of the piping, but is also of importance to the architect and builder. Part 5 deals with the installation and adjustment of gas-consuming appliances and is addressed to the same interests as Part 4. Part 6 has to do with the production of natural gas at the wells and its transmission through field pumping stations and high-pressure mains to the limits of the municipality. Part 7 is of primary interest to the users of acetylene and is addressed to the manufacturer of generating and other equipment, the distributor and the users of the gas. Part 8 deals with bottled-gas systems (Pintsch, Blau, Gasing-head gas, etc.). Part 9 is of interest both to the steel industry and to industrial plants since it deals with blast-furnace and producer gas, and also refers to the use of gasolene gas. Part 10 is addressed to the user of domestic and industrial gas-consuming appliances, and is largely non-technical in its nature.

7D2 The two parts of the Code of especial interest to the American Institute of Architects are Parts 4 and 5, which deal particularly with installations on the gas consumers' premises. In brief they are as follows:

4. Part 4 of the Code includes all regulations as to gas-fitting and the piping of buildings beyond the service meter. This part is addressed to gas-fitters, plumbers, and others who install piping on the consumers' premises, and its enforcement is a matter of piping or building inspection. It properly belongs under the jurisdiction of those municipal departments which should have ample jurisdiction to forbid the installation of dangerous equipment and require removal of such equipment or discontinuance of gas service until proper alterations have been made to render the installation safe for the users from the standpoint of fire-prevention. The responsibility for new work being properly done should, however, rest upon the fitter.

5. Part 5 covers the subject of the installation and adjustment of gas-consuming appliances, gas-lighting fixtures and their accessories. These rules are addressed to gas-fitters, plumbers, appliance dealers, and others who make such installations on the consumers' premises. The enforcement of this part is a matter of appliance and building inspection and, like Part 4, properly belongs under the jurisdiction of municipal departments. Although the fitter should be entirely responsible for the work being properly done, the choice of appliances to be installed can be placed upon him to a limited degree. Where improper appliances are selected by an owner or architect and given to the fitter for installation, he should, if aware of the fact, advise the owner or architect as to the local regulation or desirable procedure to be followed in respect to these appliances, but if the owner or architect insists...
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upon the installation of such improper equipment they should be held responsible. The same authority covering the installation of dangerous appliances should be exercised by the municipal authorities as in the case of Part 4. (g) Part 4 is approaching completion, and it is to be hoped that Part 5 will be in the hands of those interested for trial use within a short time. After such thorough trial, the Code will be amended where necessary before final recommendation by the Bureau and its con-
eres, in order to render it of greatest practicability, and it is the intention to keep the Code up to date whenever additional matter is deemed necessary or as good practice demands. (h) The Bureau has been fortunate in having associated with it in this work representatives of the various professions and industries involved. The American Institute of Architects has designated Messrs. D. Everett Waid and Julius Franke as advisors. The American Gas Institute, the National Commercial Gas Association, the Natural Gas Association, the National Fire Protection Association, the National Safety Council, the Public Health Service, and National Association of Master Plumbers have likewise cooperated, and the Bureau is glad to acknowledge its indebtedness to all of these various organizations for their assistance. (i) It is hoped that when the Code is completed it will have the approval and sanction of all interested branches of the Industry so that it may be adopted by state and municipal authorities throughout the country as a reason-
able working standard and thus will make unnecessary many diverse sectional specifications, such as preceded the National Electrical (Fire) Code, and have been more or less delaying the universal adoption of the National Electrical Safety Code.

7E Piping Buildings—Materials, Methods, and Cost

See, also, the publications mentioned under supplying Buildings with Gas 7C in all of which piping is treated.

7E1 Information Obtainable

(a) “Mechanical Equipment of Federal Buildings” (6E14), Chapter V, “Gas Handling,” would seem a likely specification such as is used by the office of the Supervising Architect of the U. S. Treasury Department for a new building. Pp. 193–196.
(b) See “Proper Specifications for, and Inspection of, Interior Gas Piping” (7A5w). Written for the Distribution Section of the ninth annual meeting of the American Gas Institute, October, 1914, by A. E. Turner. This paper is printed in the “Proceedings” (7A5a) and may be separately obtained from the Secretary.
(c) It includes “Necessity for Standard Specifications,” “Present Practice in Some Large Cities,” “Suggested Specifications,” “Piping Schedules,” and concludes with a table of “Comparison of Actual Sizes of Wrought Iron Pipe with the Theoretical Size.”
(d) “Architects’ and Builders’ Pocket Book,” 1916, F. E. Kidder, pp. 134–135: Section on “Illuminating Gas and Gas-Piping” contains information on varieties of gas and gives General Principles and Requirements for Piping a House for Gas, with Rules and Table for Proportioning Sizes and a diagram piping.
(e) “L. C. S. Handbook for Plumbers and Fitters.” See section on Gas Fitting which contains data on size of pipes, installation and testing, and acetylene gas fitting.
(f) “L. C. S. Building Trades Handbook,” p. 376, for information on “Gas Main.”
(g) “Standard Symbols for Gas-piping Plans” are shown on p. 1359 of “Kidder’s Pocket Book” as referred to under 7E2.

7E2 Practice Recommended or Suggested by

See also, the publications mentioned under supplying Buildings with Gas 7C in all of which piping is treated.

(A) American Gas Institute:
2. This report also contained the following:
   - Piping Necessary.—The Committee realizes that a detailed table showing the size of risers, size of branch piping, number and size of fuel power and lighting outlets for various classes and size of buildings and for various types in them would be a great aid to the gas manager in working out his problems. However, the compiling of such a table would involve so many variables, and such a table would have to be in such great detail, in order to satisfactorily meet all conditions, that it has been thought advisable to endeavor only to give a few general sug-
gestions which it is believed can be followed with satisfactory results.
   - Cost of Piping.—The Committee has analyzed the cost of piping many buildings brought to their attention, from the simple case of piping a loft building, where the number of outlets is few, due to un-divided space, and therefore the branch lines on each floor few in num-
ber, to the case of the complete piping of large office buildings for light-
ings, basements, basements, fuel, etc.
   - Classes of Space.—(1) Large areas in loft buildings used for storage or manufacturing purposes.
   - (2) Rooms in public or office build-
ings used as assembly halls, courtrooms, large offices and for miscel-
naneous purposes.
   - (3) Rooms in office buildings used as offices.
   - (4) Rooms in hotels and apartments used as reception-rooms, living-rooms, bed-
rooms, etc.
   - Outlet to be Installed.—(1) This is generally a case of exposed pip-
ing. Baseboard outlets (not less than 1/4-inch) should be installed for a reasonable distances or to suit occupancy. Proper outlets should be installed for the lighting system.
   - (2) One ample baseboard outlet (not less than 1/4-inch) should be installed for any possible future supply for gaseous fuel. Proper outlets should be installed for the lighting sys-
tem, and modern attractive gas fixtures or combination gas and elec-
tric fixtures so designed that modern gas burners may be as easily and attractively used on them as may electric lights.
   - (3) Usually one base-
board outlet (not less than 1/4-inch) should be installed for connection of portable light or possible use of gaseous fuel. One or more ceiling outlets for the lighting system with fixtures as outlined in (1). (4) The larger rooms should be provided as in (a). (5) The larger living-rooms and bedrooms should preferably have more than one baseboard outlet.
   - Cost of Piping.—The Committee has analyzed the cost of piping many buildings brought to their attention, from the simple case of piping a loft building, where the number of outlets is few, due to un-divided space, and therefore the branch lines on each floor few in num-
ber, to the case of the complete piping of large office buildings for light-
ins, basements, basements, fuel, etc.
   - (A) A list of buildings and comparative prices is then given in the report. These figures, both for the cost of the buildings and for gas installations, would have to be proportionately increased to compare with prices now obtaining.
   - From these typical, practical examples it can be seen that the gas-
piping installation in a modern building, if put in the time of erection, amounts to an extremely small figure, varying from 0.28 per cent to 1 per cent of the total cost of the structure for buildings varying from a loft building with its small number of outlets to the most elaborate pip-
ing of a modern office building.
   - (B) Report of the Committee on Gas House-piping, as submitted to 1915 annual meeting of the A. G. I. (7A3a).

   - The rules are divided for convenience into general specifications, building services, riser locations, outlets, fastening pipe, running of pipe in connection with walls, floors, etc., and the testing and inspection of piping.

   - A section is also devoted to rules and tables with explanations.

   - Report of the Committee on Gas House-piping, as submitted 1916.
   - This is an extension of, and elaboration upon, the previous report with General Specifications, Rules, and Tables, so formulated that they would be applicable, with very minor changes, to any situation, the final issuance in any doubtful case resting with the Committee.
   - While it expressly stated that it is a tentative specification only, and approved by the American Gas Institute, it may well be looked upon, pending the final issuance of the National Gas Safety Code, as a stan-
dard to be followed in writing specifications for gas installations, where local building codes do not contain specific requirements, or for incor-
poration in specifications as the present standard to be followed with respect to all matters of workmanship and procedure.

   - (D) National Commercial Gas Association, serial no. 7.
7E3 Standards to be Followed

(a) By the Treasury Department, U. S. A. (Office of Supervising Architect):
1. In "Mechanical Equipment of Federal Buildings" (6L), under "General Instructions Issued to Draftsmen," p. 365, it is stated: "All buildings must be piped for gas, even though there are no local gas works. This is a special governmental requirement."

(b) The building codes of such cities as prescribe any regulations for gas piping should be followed. These codes are in the general adoption of installations in the municipal jurisdiction. Some cities leave the matter entirely in the hands of the local gas companies, and in all cases where gas supply is available, inspection is made to determine the tightness of the supply-pipes before gas will be turned into the buildings. There remains, however, the installation beyond or in advance of service main to be taken care of, and in order that the piping may be adequate and that equitable conditions may prevail in the estimating specifications, should always provide for convenient references see Gas Appliances in General and reference throughout to information concerning all kinds of gas, pressure, measurement of flow, meters and regulators, and gives data on piping, acetylene generators, etc., as mentioned under 7E1d and 7L.

7F Gas and Its Utilization in Buildings

On the properties of the various gases and on the methods of production and use there is a vast amount of literature, so that it is impossible to list or to use all of it. Reference will be made to certain publications, however, wherein these subjects are covered in connection with the general application of gases to industries connected with building construction or to their utilization within or adjacent to buildings.

7G Properties, Power Equipment, and General Uses

1. The various bureaus of the United States Government at Washington issue circulars, bulletins, technical papers and other publications which contain authoritative information of the widest range, all of which may be obtained from the Superintendent of Documents, Washington, D. C. A list of the most important of these, as concerns gas investigations and data, mostly of interest to the producer rather than the consumer, is given in the Monthly Bulletin of the N. C. G. A. (7A3b), May, 1917, p. 291, and June, p. 323.

2. The "Gas Chemists' Handbook" (7A2z) and other publications of the American Gas Institute, including the "Bulletin of Abstracts," a classified record of technical articles (7A2f).

3. "Industrial Fuel Reference Books" (7A3y) and other publications of the National Commercial Gas Association, including "Gas Equipment of the Home" (7A3y).

4. Also, "Utilization of Gas Appliances" (7A3y), No. 10, entitled "Principles of Industrial Fuel."

5. Various periodicals and current publications covering subjects under this general heading are listed in each issue of the Monthly Bulletin of the N. C. G. A., as mentioned under 7A3b.

6. "Mechanical Engineers' Handbook," 1916, Lionel S. Marks, Editor-in-Chief. Read Index to same for references to properties of all gases and gas equipment of all kinds, including gas engines, gasolene engines, and power plants.

7. "American Civil Engineers' Pocket Book," 1916, Mansfield Merriman, Editor-in-Chief. Read Index to same for references to information on gas, gas-products, and gas equipment for power and other purposes.

8. "Mechanical Engineers' Pocket Book," 1916, Wm. Kent. Read Index to same and refer to Gas, Fuel-Gas, Producer Gas, Illuminating Gas, Acetylene and Calcium Carbide, and other information including that on gas engines.

9. "Architects' and Builders' Pocket Book," 1916, F. E. Kidder; Thomas Nolan, Editor-in-Chief; pp. 1345-1350: Section on "Illuminating Gas and Gas-Piping" contains succinct information on five varieties of gas, namely: Coal-Gas, Water-Gas, Natural Gas, Acetylene-Gas, and Gasoline-Gas, and gives General Principles and Requirements for Piping a House, as mentioned under 7E1c.

10. "Lefax Data Sheets," issued under the branches Mechanical and Chemical, for extracts from articles in scientific, technical and governmental publications on the subjects covered by this heading.

11. In "I. C. S. Handbook for Plumbers and Fitters" will be found a section on Gas and Gas-Fitting which treats of the different kinds of gas, pressure, measurement of flow, meters and regulators, and gives data on piping, acetylene generators, etc., as mentioned under 7E1d and 7L.

12. The above Handbook is independent of four volumes on "Steam and Gas Engineering" and two volumes on "Plumbing and Gas-Fitting" in the extensive International Library of Technology, each of which treats the subject exhaustively.

13. "Universal Safety Standards" (6E1f, 361), 1917 and 1918-19, contains information on gas engines, with illustrations showing how various types of engines should be guarded.


15. "Field Practice" (7A3y). Chapter III on "Power Hazards" contains Section 3 on "Gas and Gasolene Engines," giving information on the installation and inspection of these devices,
7H Gas Appliances in General

The appliances chiefly used in buildings, outside of the industries, will be referred to under the separate subdivisions which follow:

This main heading is provided in order to refer to a few suggestions or requirements common to the utilization of appliances in general. These are independent of those to be covered eventually by the National Gas Safety Code, the purpose of which with respect to appliances is well set forth in paragraphs (f) and (g) under 7D.

1. Standards along the line of manufacture and installation are being developed by a Committee of the American Gas Institute on Utilization of Gas Fuel Appliances under the National Commercial Gas Association on Standardization of Gas Appliance Specifications, the latter of which has already issued two standard specifications elsewhere referred to. These Committees are also developing a standard for flexible gas tubing, the sale manufacture and proper precautions in the sale of which are to be greatly encouraged. The results, according to the systems used, are attained through hot air, steam or hot water direct radiation, or hot air radiation.

2. The Manufacturers' Section of the N. C. G. A., under its separate organization, is cooperating in the development of other standards.

   (a) No. 3 Supplement—Elementary Principles of Construction and Utilization of Energy.
   (b) No. 6—Hotel and Restaurant Appliances.
   (c) No. 9—Miscellaneous (Domestic) Gas Appliances.


5. The "Gas Equipment of the Home" contains several sections applicable to this subdivision. (Note the contents listed under 7A3c.)

7J Space-Heating by Gas

This subject is engaging more and more attention, and developments are continually taking place. The Committee of the A. G. I. reporting in 1914 (see 7C1), referred to gas heating, especially individual space units, as in time coming into general use, which possibility it stated should have weight in arranging for gas supply at the time of erecting all buildings.

The means of accomplishment are varied, running from gas-grates, gas-log, fireplace burners, wall-heaters, and portable heaters, to gas-fired furnaces, boilers, and radiators. The results, according to the systems used, are attained through hot air, steam or hot-water direct radiation, or hot air radiation.

1. Reference to some of these methods is made in "Gas Equipment in the Home," 7A3f, for which read the contents there printed.

2. The Committee on the A. G. I. on Utilization of Gas Fuel Appliances made a very complete report to the 1916 Convention, which is fully printed and illustrated on pp. 956-988 of Part ii of the "Proceedings," 1916. (7A3a.) This included illustrations of various types of blue- and luminous-flame heaters, with results of tests on distribution and quantity of radiant heat, diagrammatically expressed and much data on appliances in general and on flexible tubing.

3. A committee of the N. C. G. A. exists for the investigation and development of heating by gas. This is known as the Committee on Auxiliary Heating, George S. Barrows, Chairman. This Committee at the 1916 Convention made a most interesting and very complete report, which is printed and fully illustrated in the "Proceedings" for that year (7A3b), pp. 393-398.


5. The Consolidated Gas, Electric Light and Power Co. of Baltimore has issued a 33-page booklet on various phases of this subject, entitled "House-Heating with Gas in Baltimore a Success."

Concerning a system of space-heating by the information published in the Industrial Section by the Hugo Mfg. Company on the Hawks System, see x.

7K Water-Heating by Gas

1. This subject will be found treated in but few of the pocket books and handbooks referred to elsewhere. Precise information has frequently been difficult to acquire, even the manufacturers themselves furnishing it in the form required by architects to assure in advance the most satisfactory service through the best and most economical use of each appliance. A realization of this has led some manufacturers to prepare handbooks and data sheets quite independent of the usual catalogues, and some gas companies have prepared data sheets for the special use of architects as mentioned under 7H.

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of water circulation, sizes of heaters, connections and flues, to care, efficiency, and maintenance.
5. For most complete and exhaustive data on water-heaters in general, see the series of pamphlets 7A1 on "Utilization of Gas Appliances." These are fully illustrated and contain diagrams, tables, calculations, descriptions, and recommendations of the greatest usefulness.
(a) No. 4 is entitled "Circulating Water-Heaters for Domestic Purposes," and is divided into sections on: Evolution of the Heaters; Combustion; Efficiency; Water-Circulation; Types of Circulating Water-Heater; Combination Boiler and Gas Water-Heater; Flues; Burners and Connections; Causes of Rusty Water; Comparison with other methods of Heating Water; Comparative Costs—Coal and Gas; A Practical Method of Making Efficiency Tests.

7L Cooking and Hotel and Domestic Appliances

Aside from the illustrated literature of the gas associations and companies, the publications in connection with gas for cooking and other domestic conveniences are chiefly those of the manufacturers of the appliances, whether they be used for home, hotel or laundry—club, cantonment or other permanent or temporary use. There will, however, frequently be found articles of suggestive value and usefulness in the many periodicals, lists of which have been mentioned, and in the many popular magazines.
1. Attention is directed to the Section on Gas Appliances in General and to the work of the Committees on Standardization of Gas Appliance Specifications referred to therein under 7H1.
2. The Gas Equipment of the Home (7A3y) takes up the use of gas for cooking and for other forms of domestic utilization separately. It shows the plan of an "Ideal Kitchen" and contains illustrations and suggestions relating to the manifold uses of gas throughout the home, treats of hoods and canopies and other accessories and contains subdivisions which cannot be fully described in the contents listed. It also mentions Domestic Equipment in Schools.
3. Under the "Lessons" referred to in 7A3y are those relating to 7A3z, entitled "Domestic Cooking Appliances."
4. See especially "Utilization of Gas Appliances" (7A3y).
(a) No. 1 is entitled "Domestic Cooking Appliances."
(b) No. 6 is entitled "Hotel and Restaurant Equipment."

7M Illumination—Fixtures, Equipment and Ignition

On the general subject of illumination and the modern science of illuminating engineering read the interesting account of the Illuminating Engineering Society under 7M1 prepared for the Journal through the courtesy of Wm. J. Serrill, President.

1. No more fitting introduction to the subject of illumination by gas could be printed than the following excerpts from the Report of the Committee of the American Gas Institute referred to under 7A2k as they treat of developments in fixtures, mantles, and ignition to suit all modern requirements.
(a) "With the latest developments in both inverted and upright incandescent mantle burners, gas may be applied to all forms of illumination—direct, semi-direct, or indirect. These units, made in several sizes, giving a light from the smallest intensity commercially used to a light of as high intensity as needed for any indoor work, with the great variety of glassware which it is possible to use, are made up in fixtures varying from the plain, simple, ornate fixture suitable for purely commercial lighting, to the rich, heavily ornamented fixture for use in the handsomest surroundings."
(b) Ignition.

"Directly connected with the consideration of appearance comes the question of flexibility. Gas units are now placed on the market in varying sizes. Allied closely with this question of flexibility comes that of control of the units themselves. This means the method of lighting and extinguishing. Before the advent of the incandescent mantle light, gas-lighting usually required the use of matches and the manual lighting of each and every lamp.
Simultaneously with the development of the mantle unit, however, came the invention of several methods for lighting and extinguishing lamps, and several methods of control of another, from a distance, until at the present time no installation can lay any claim to being modern or complete that requires the use of matches for ignition. We now have available these distance-control systems, and also local control, with single pendant switch or chain, similar in all respects to the electric local control. Here the ignition is accomplished by a pilot light. This system has been in operation for many years and gives entire satisfaction.
(c) Distance Control.

From the many distance-control systems available, there are several which have been used in actual service and have proved reliable and dependable. These are the magnetic unit with pilot ignition, the magnet coil with jump-spark ignition, a safety unit using pressure or control and igniting by pilot light, and the hot-wire, or filament, ignition in combination with the magnet coil. In actual operation in various installations these have given satisfactory service. Gas, therefore, has all the features of convenience of any of the commercial illuminants. (In the Appendix, Section II of the Report (7A2k) will be found a short description of each of these systems with diagrams indicating their method of operation.)
2. See "Architects & Builders' Pocket Book," 1916, F. E. Kidder, pp. 1235-1270, Section on "Lighting and Illumination of..."
   (a) No. 2 is entitled "The Production of Light.
   (b) No. 3 is entitled "Planning Lighting Installations.
   (c) No. 4 is entitled "The Equipment of the Home.


7N Illumination in General

7N1 Illuminating Engineering Society.

Public Information:
(a) Publication of a periodical called the "Transactions," in which are printed papers dealing with all phases of the art and science of illumination. The "Transactions" are free to all members. To other individuals, $5 per year; to libraries, $4; foreign subscriptions, 50 cents additional.
(b) Publication of special pamphlets dealing with the particular phases of illumination. Among these may be mentioned the pamphlets entitled "The Primer of Gas and Gas Lighting," a "Code of Lighting Factories, Mills and Other Work Places," and a number of reports of committees of the Society.
(c) The conducting in the year 1915 of an elaborate lecture course on illuminating engineering, jointly with the Johns Hopkins University, and the subsequent publication of reprints of the lectures. At the present time there is in course of publication a similar volume dealing with a second course of lectures on illuminating engineering jointly conducted in the year 1917 by the Society and the University of Pennsylvania. This treatise, the latest word on illuminating engineering, will be available after July 1.

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During the ten years of its existence the Illuminating Engineering Society has wrought a wonderful change in the conditions of lighting. A formless mass of principles, theories, and practices has been coordinated so as to constitute a definite branch of engineering; questions of nomenclature and standards, which form the basis of any orderly engineering practice, have been solved and standardized; researches in the domains of both physics and physiology have been fruitfully stimulated; educational courses have been inaugurated; legislation has been, and is now actively being, guided along intelligent lines.

To the home-lover it has been shown that his evenings may be made more cheerful through proper lighting. Conservation of eyesight, increased decorative value of furnishings, an atmosphere of hospitality and warmth are among the things that good illumination secures. The lighting of work places—offices, stores and factories—has been improved, and the advantages of correct illumination have been demonstrated. Increased output, welfare of the worker, and a general betterment of the morals of the employees has resulted. Public halls, theatres, auditoriums, churches and all meeting-places required interior illumination—natural and artificial—which would give an atmosphere appropriate to the functions of the place, as well as the necessary illumination. Highway illumination demands more than the ability to see an approaching vehicle or pedestrian. The contour and architectural features of buildings may be so lighted that their esthetic value is retained during the hours of darkness. The parking and landscapes adjacent to the roadway may be seen by night as well as by day. Municipalities have been thus encouraged to improve the grounds surrounding public buildings and adjacent to highways. Studios, museums, and galleries of art afford a field for the development of illumination which is destined to awake a new enthusiasm in the artist and a new appreciation in the connoisseur. Intensity, color, and direction of light may be adjusted to give the effects which are so necessary to this class of illumination. The architect and artist need no longer leave out fine shades of color and delicate contours because of inadequate lighting.

With all these lines of endeavor clearly defined, the Society organized its members, sections, and committees. It received the hearty cooperation of the scientist, manufacturer, the fixture designer, and the gas and electric central station men. The cooperation of all users was represented in the demand for improved installations. Many other professions became interested and offered support to the movement—the architect, ophthalmologist, optician, and those interested in civic and municipal improvements.

During nearly eleven years of activity the Society has aided materially in the present high development of lighting. The indirect and semi-indirect systems of illumination, the use of "daylight" illuminants and special color devices, the effective distribution of light from the modern lamps and shades, the development of flood-lighting and spectacular illumination are some of the things fostered by the Society. It should be emphasized that the Society stands for illumination and is strictly neutral and impartial as between the various artificial illuminants.

Among important investigations carried on by technical committees of the Society may be mentioned those of the Committees on Nomenclature and Standards, Glare, Research, Lighting Legislation and Education.

Through the cooperation of the Committee on Lighting Legislation, modeled on a code prepared by this Committee, several states have enacted legislation on this subject.

At the present time the Society has committees preparing reports on the following subjects: Automobile Headlamps, Railway Vehicle Headlamps, Street Lighting, Diffusing Media, School Lighting, Lectures to Architectural Students.

There are five sectional organizations of the Society. These sections hold regular meetings in their respective localities—New York, Philadelphia, Pittsburgh, New England, and Chicago. The membership of the Society numbers 1,300.
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Ventilating Gas Radiators—
—Hawks System

A flexible system of individually gas-fired radiators, trim in appearance, resembling a steam installation. Use iron pipe or tile vents. Draw fresh air continually into the room like a fireplace. Advantages: clean fuel; quick, economical, convenient heat, always ready. Construction simple, with no parts to get out of order. Efficiency high because of long circulation path for vented gases (see cut). Burner enclosed within radiator. Operate by natural draft, without fans. No water, steam, valves or gauges. Types in heavy cast iron, or 22-gauge, Rust-Resisting Armco Iron. See page 1318 Sweet's catalogue 1917, or drop us a card for further particulars.

Hydrated Lime Plaster

Quiet and Sanitation

Two important subjects for consideration in nearly every type of building construction are quiet and sanitation. Interior plastering is a great factor in each.

Quiet: It is the interior plastering which largely determines the noises due to the reflection and transmission of sound. Recognized authorities on acoustics agree that material containing a large number of fine pores has a higher coefficient of sound absorption than one which is dense and brittle. Hydrated Lime Plaster is porous in its hardened state and makes an ideal sound-deadening material.

Sanitation: Hydrated Lime is a slow-setting plaster, which gives the mechanic sufficient time to straighten and trowel the wall to a true and even surface. The true and even finish permits the interior trim to rest on a surface free from unevenness, doing away with cracks and crevices which collect dust and vermin.

Many high-class architects are using Hydrated Lime Plaster as their standard plaster for scratch and brown coats.

Complete information concerning the application of Hydrated Lime Plaster will be sent upon request.

Hydrated Lime Bureau
of the National Lime Manufacturers' Association
Arrott Building, Pittsburgh, Pennsylvania
HUMPHREY

Pressure Valve Type Without Thermal Control

For Cottages, Bungalows, and other places of average demand

This heater should be specified where the cost of our A-type heater would be beyond the price limit of a prospect. It has every good feature of the A-type, except the thermal control.

This lack, however, is made up to a great extent by the Humphrey patented two-point suspension piston in the water valve—which eliminates “valve sticking,” and the patented, adjustable, automatic by-pass temperature control which prevents excessive temperature in a very small flowing stream.

Details of the Humphrey No. 30

- Height: 40 inches
- Diameter including valve: 21 inches
- Diameter Copper Coil: 3/4 inch
- Length Copper Coil: 63 feet
- Size Flue Pipe: 5 inches
- Number of Burners: 12
- Gas Supply from Meter: 1 inch
- Size Gas Meter: 20 feet
- Burns Gas Per Minute: 3 cu. ft.
- Heats per minute: 63° rise, 3 gallons
- Supply residences not more than: 3 faucets

The No. 30

GAS WATER
AUTOMATIC

Constructional and Installation Information
Pertaining to the Humphrey

SIZES, DIMENSIONS, AND CAPACITIES OF THE TYPE A

<table>
<thead>
<tr>
<th>Heater No.</th>
<th>Height in Inches</th>
<th>Diameter Shell only</th>
<th>Diameter Shell including Valve</th>
<th>Length Copper Coils, inches</th>
<th>Size Flue Pipe, inches</th>
<th>Number of Burners</th>
<th>Gas Supply from Meter, inches</th>
<th>Size Gas Meter, Lights</th>
<th>Gas Consumed per min., cu. ft.</th>
<th>Heats per min. 63° raise, gals.</th>
<th>Will supply home with not more than</th>
</tr>
</thead>
<tbody>
<tr>
<td>2A</td>
<td>39</td>
<td>15</td>
<td>16</td>
<td>60</td>
<td>4</td>
<td>9</td>
<td>10</td>
<td>2/4</td>
<td>2</td>
<td>2 Faucets</td>
<td></td>
</tr>
<tr>
<td>3A</td>
<td>43</td>
<td>19</td>
<td>25</td>
<td>74</td>
<td>5</td>
<td>12</td>
<td>20</td>
<td>3/4</td>
<td>3</td>
<td>3 Faucets</td>
<td></td>
</tr>
<tr>
<td>4A</td>
<td>46</td>
<td>20</td>
<td>30</td>
<td>100</td>
<td>6</td>
<td>16</td>
<td>30</td>
<td>4/3</td>
<td>4</td>
<td>4 Faucets</td>
<td></td>
</tr>
<tr>
<td>6A</td>
<td>52</td>
<td>22</td>
<td>36, 60</td>
<td>124</td>
<td>6 1/2</td>
<td>24</td>
<td>45</td>
<td>6/4</td>
<td>6</td>
<td>6 Faucets</td>
<td></td>
</tr>
<tr>
<td>8A</td>
<td>56</td>
<td>26 1/2</td>
<td>42</td>
<td>156</td>
<td>8</td>
<td>32</td>
<td>60</td>
<td>8/5</td>
<td>8</td>
<td>8 Faucets</td>
<td></td>
</tr>
</tbody>
</table>

We recommend use as follows:

No. 2A. Capacity, 2 gallons hot water per minute. Suitable only for places of very light demand. With only one or two faucets to be supplied. No. 2A can be used only with city water pressure or compression tank pressure.

No. 3A. Capacity, 3 gallons hot water per minute. Suitable for small dwellings, having only bathroom and kitchen connections for hot water.

No. 4A. Capacity, 4 gallons hot water per minute. This is the standard size, and is the heater we recommend for the modern home, having bathroom, kitchen and laundry.

No. 6A. Capacity, 6 gallons hot water per minute. This size is adapted for dwellings having two or three bathrooms, butler’s pantry, and one or more hall or bedroom lavatories.

No. 8A. Capacity, 8 gallons hot water per minute. This size is suitable for large dwellings having three to six bathrooms, butler’s pantry, several hall or bedroom lavatories, etc. Is also well adapted for small hotels, restaurants, small apartment houses.

INSTALLATION

Size. Capacity to meet the maximum demand.

Location. Close as possible to the most frequently used faucet. Avoid long runs of hot water piping. Insulate the hot water riser and hot water lines from heater. This reduces gas cost of operation and improves service.

Water Pressure. Twenty pounds pressure at the highest faucet.

Cold Water Supply. Larger than the inlet connection of heater and taken direct from the cold water main.

Gas Supply. Direct from meter to heater and should be large enough to supply the amount required by the size of heater used.

Hot Water Outlet. Should connect heater outlet with nearest point in hot water line.

Flue Connection. An independent connection to a chimney with a good draft should be made.

Complete information on any specific feature or installation problem furnished immediately upon request.

HUMPHREY CO. (Div. Ruud Mfg. Co.), KALAMAZOO, MICH.

HEATERS
Institute Publications
(Of a Permanent Nature)

The Monograph on the Octagon. $12.50.
The Standard Contract Documents.
The Standard Form of Agreement between Owner and Architect (Percentage Basis).
Circular Relative to the Size and Character of Advertising Matter.
A Circular of Advice Relative to Principles of Professional Practice. The Canons of Ethics.
A. I. A. Document, Series A, No. 107
A Circular of Advice and Information Relative to the Conduct of Architectural Competitions.
A. I. A. Document, Series A, No. 114
Standard Form of Competition Program.
A. I. A. Document, Series A, No. 115
Proceedings of the Fiftieth Convention (1916).
A. I. A. Document, Series A, No. 121
Constitution and By-Laws.
A. I. A. Document, Series A, No. 123
Schedule of Proper Minimum Charges.
A. I. A. Document, Series A, No. 124
Architectural Terra Cotta of New Colors and Textures

With the wide use of Texture Bricks why should we not have ARCHITECTURAL TERRA COTTA of like color and finish?

Recently I have been called upon to produce work of this nature. The result was so pleasing that I forthwith decided to introduce a new line of colors and finishes. The illustration before you is only one of the many textures that I will offer to the trade in the very near future.

Fortunately, as a dealer in BRICKS, having at my disposal plants that produce all the shades and textures, and, as a manufacturer of ARCHITECTURAL TERRA COTTA, I am enabled to furnish without delay the bricks and ARCHITECTURAL TERRA COTTA, from my own plants. This assures, without experiment, a monotone or combination of colors such as has never before been presented with these materials.

This is to announce that these new finishes now being produced will be shown in color and texture in plate form as soon as they can be received from the press. Pending the issue of these plates in pamphlet form a call to any of the offices will bring due response.

O. W. KETCHAM
Manufacturer of
Architectural Terra Cotta—Brick—Roofing Tile
Master Builders Exchange, 24 South 7th St., Philadelphia

WASHINGTON
Home Life Building

BALTIMORE
Baltimore American Building

NEW YORK
1170 Broadway
For Every House in Town

there is a suitable KOHLER Bath Tub, Lavatory and Sink. You are sure to meet the needs of your client by specifying KOHLER WARE always of one quality—the highest.

The beauty of the enamel, the hygienic designs and the excellence of construction are notable features of the plumbing ware produced by KOHLER OF KOHLER.

The attractiveness of any home is enhanced by the “Viceroy,” America’s foremost built-in bath. It is of genuine one-piece construction, easily installed and suitable in price for all classes of houses and apartments.

Our illustrated booklet, “KOHLER OF KOHLER,” sent free upon request, should be in the working library of every architect.

KOHLER CO. Founded 1873 Kohler, Wis.

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Houston San Francisco Los Angeles Seattle London

* The stars indicate the location of the KOHLER permanent trademark in faint blue.
One way to design a thing is to make a separate part for each function, and patch them together.

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Lupton Steel Sash
Counterbalanced Type

is made up of only five sections, yet is the tightest and most durable sash of its kind made.

The sill has a double rise to exclude weather, and the bottom sash is rolled to fit it.
The interlocking meeting rails require no weather strips.
Finally, each sash is made into a single unit by welding the joints.
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Our new Catalog No. 9 describes fully this and other Lupton Products.

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Westmoreland and Trenton Ave., Philadelphia, Penna.
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In finishing wood, you use varnish to get depth of tone, an exquisite finish and to preserve the wood—its beauty; its very life.

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**Murphy Varnish**

"the varnish that lasts longest"

is made by slow and painstaking processes which are carried forward with scientific accuracy. In this way only, can we produce varnish that will intensify all the natural beauty of the wood, give it the refinement of effect you expect, and at the same time protect it from moisture, dampness and hard knocks for many years.

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- **Murphy Transparent Floor**
- **Murphy Transparent Spar**
- **Murphy Nogloss Interior**
- **Murphy Semi-Gloss Interior**
- **Murphy Univernish**
- **Murphy White Enamel**
- **Murphy Enamel Undercoating**

**Murphy Varnish Company**

*Franklin Murphy, jr., President*

Newark New Jersey

Chicago Illinois

Dougall Varnish Company, Ltd., Montreal, Canadian Associate
The greenhouse was originally erected for J. K. Lyons, Hubbard Woods, Ill. Howard Van Doren Shaw, Arch't

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Among your clients you may have some lacking imagination, who find it difficult to picture in their minds how a certain greenhouse will look on their grounds.

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By way of convincement, we took a cut-out photo print, and pasting it on white drawing bristol, sketched in the pergola as you see it. Mayhap we can be of similar service to you.

Our Special Architects' Service Department is always cordially at your service.

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Builders of Greenhouses and Conservatories

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Chicago
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The use of concrete in residence construction, either by itself or in combination with other facing material, offers many striking advantages. Its non-conductivity and its water-proofness make for comfort; its fire-safeness makes it desirable in the humblest as well as the most magnificent house.

LEHIGH PORTLAND CEMENT COMPANY
Member of the Portland Cement Association

CHICAGO, ILL.  ALLENTOWN, PA.  SPOKANE, WASH.
The **PFAUDLER**

Glass Enameled Steel LAUNDRY CHUTE

emits no foul odors; for it can be thoroughly cleansed.

Soiled linen in a hospital usually infects its conveyor, and often deposits foul matter.

That these may be quickly removed, the Pfaudler Chute is lined with glossy, non-absorptive, fused-in Glass Enamel, and is equipped with a flushing ring at the top which washes infections into the sewer whenever necessary.

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Let us send you Details of Construction and Operation.

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**Detail!**

**THOSE** six letters spell the most important word in the architect's lexicon! To the architect, it means his reputation—to the owner, it determines whether his building shall be a profitable investment or a costly white elephant.

**R.I.W. CEMENT FILLER & CEMENT FLOOR PAINT**

effectively take care of one detail. Their use assures both architect and owner that the floors will never be a source of complaint—that oil, water, and acids cannot soak into the cement, and that the pores will be scientifically sealed.

Dusting, too, is prevented. A surface treated with R. I. W. Cement Filler and Cement Floor Paint will not wear away in the fine grit that ruins stock and machinery, and which loses tenants. Supplied in a wide range of colors, these preparations make cement floors look better, wear better, and give more satisfactory service all around.

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**INDUSTRIAL SECTION**

**JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS**

July, 1917
Use CAST IRON SOIL PIPE for SOIL LINES, VENT LINES, LEADER LINES, WASTE LINES.

- No corrosion — No menace of будiding leakage and sewer gases — No tearing up of floors and walls after pipe is installed.

Use CAST IRON SOIL PIPE for HOUSE DRAINS, HOUSE SEWERS.

- No pollution under cellars — No stoppage by tree roots — No danger of breakage by jar or settlement — No costly replacements.

CAST IRON SOIL PIPE LASTS LONGER THAN THE BUILDING.
The Cast Iron Soil Pipe in this composite group of New York Buildings—hotels, apartment houses, office buildings, and loft buildings—will last longer than the buildings themselves.

**Why Cast Iron Soil Pipe should be used in the Building**

Wrought Iron and Steel Pipe, even though coated with tar, paint, or cement—or galvanized, cannot resist rust action. Wherever other than Cast Iron Soil Pipe drains and vents are used, the dangerous menace of leaking sewage and drain air is bound to exist.

**Why Cast Iron Sewers are Best**

Vitrified pipe is easily broken by shock and strain. Tree roots attracted by moisture choke vitrified sewers causing stoppage and pollution.

**Cast Iron Soil Pipe is made in long lengths.** Where a sanitary test is made, it is installed in less time and at less cost than pipe made in two-foot sections.

**Cast Iron Soil Pipe—underground—is permanently tight and lasts for centuries.**
There are various materials used in construction which, because of the important uses to which they are to be put, require extended tests and careful analyses by experienced workmen with highly specialized equipment.

Robert W. Hunt & Company maintain Cement, Physical and Chemical Laboratories with specially trained chemists and testers at each of their main offices, also experienced inspectors at the principal cement producing centers to secure for their clients the best data regarding the merits of building materials as well as of a variety of other materials of interest for all engineering purposes.

CEMENT LABORATORIES

For all users of cement Robert W. Hunt & Company offer their services. The inspection and testing of cement should be made at the mills or in warehouses and the strongest argument substantiating the need of testing and inspection of cement is the unconditional requirement of the standard specifications for Portland cement adopted by the American Society for Testing Materials and approved by the American Society of Civil Engineers which says: “All cement shall be inspected.”

Such a recommendation or requirement would not be adopted by two such authoritative bodies of engineers and cement chemists without adequate basis therefor and it may be said that practical experience in the use of Portland cement had taught them that such a specification was necessary.

Of the value of Portland cement when “up to specifications” too much cannot be said. Of the danger of its use when unfit, also, too much cannot be said, and whether it is fit and therefore of great value or unfit, and therefore of infinitely less value than nothing, can only be determined by the tests prescribed.

The testing of the aggregate, also of prime importance, should be made to determine suitability; the general character of the material, the grading and the cleanliness are most important. Determinations can also be made to obtain the best possible and most economical mixtures.

PHYSICAL TESTING LABORATORIES

The physical testing laboratories contain all standard testing equipment including tensile and compression testing machines of capacity from 200 pounds to 300,000 pounds, vibration testing machines, abrasion testing machines, complete metallographic apparatus, etc.

All standard tests of engineering materials can be made and special investigations of the relative merits of any materials of construction can be determined.

CHEMICAL LABORATORIES

At each chemical laboratory the equipment is complete for varied lines of materials, and for research work. The chemists are selected with great care and each laboratory is in charge of a chemical engineer of wide experience. Thoroughness, accuracy, and promptness are assured.

Architects, engineers and manufacturers are depending more and more on the chemist—in the first place to tell the architect and engineer the character of materials needed, and in the second, to tell the manufacturer how to produce them. Many organizations so interested maintain their own laboratories. To those who do not, Robert W. Hunt & Company offer their services for moderate fees.
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Suitable for Public Buildings and Private Residences

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NEW YORK

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"CREO-DIPT" STAINED SHINGLES
17 Grades
16-, 18-, 24-inch
30 Colors

There are many combinations of browns, greens and grays for roofs and side walls.

"CREO-DIPT" Stained Shingles. Some refer to the lasting stains and pleasing colors; others to the quality of shingles. We take pride in producing

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Factory in Chicago for West

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There is a wealth of meaning in those words—exclusively hand power—when applied to the elevator industry.

They mean, first, the obvious advantages that accrue to the architect in dealing with a manufacturer who for a generation has given concentrated thought and specialized skill to the development of hand power types alone.

They mean a product upon which has been focused a rare experience.

And they mean a fund of knowledge on the problem that is as complete as it is authoritative.

If you have not received our service sheet, giving valuable information, measurements, etc., on all standard types of dumbwaiters, please ask us for your copy.

SEDGWICK MACHINE WORKS
182 Liberty Street
New York
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IRON FENCES, FIRE ESCAPES
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Department of Special Products
SYRACUSE, N.Y.

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Specification booklet, testimonials, and hardened concrete block—on request.

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Manufacturers of Cemcoat,
the Washable Wall Coating
264 Pearl Street New York

BROOMELL SYSTEM
of VAPOR HEATING

INSTALLED in thousands of buildings of every kind and size. We prepare all plans and specifications, and guarantee results. We save the architect time and worry, and we save the owner money.

VAPOR HEATING COMPANY
North American Building, PHILADELPHIA, PA.
The Shingles and Timbering
of this beautiful Old-English residence are colored and preserved with

Cabot's Creosote Stains

The shingles are warmer than English tiles, and the coloring is much softer and richer, owing to the texture of the wood and the deep velvety tints of the stains. The stained timbers, in old smoky browns and dark grays that bring out the grain, harmonize perfectly and weather out beautifully. Cabot's Stains are artistic, inexpensive, lasting, and the Creosote preserves the wood.

You can get Cabot's Stains all over the country. Send for stained wood samples and name of nearest agent.

SAMUEL CABOT, Inc., Mfg. Chemists, Boston
1133 Broadway, New York 24 W. Kinzie St., Chicago
Cabot's Stucco and Brick Stains, "Quilt," Damp-proofing, Conservo Wood Preservative, etc., etc.

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Protect and give pleasure by providing clear, colorless, grit-free water for residences or buildings.

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Specify Mississippi Wire Glass
The Recognized Standard
and be assured of
Fire Protection
Breakage Protection
Quality Protection and Satisfaction

Write for Catalog 11

MISSISSIPPI-WIRE-GLASS-CO.
CROISIC BUILDING
New York St. Louis
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CLEAN COLLARS FOR PLUMBING FIXTURES

To Architects:

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SPECIFICATION: All exposed waste and supply pipes to all plumbing fixtures shall be finished at the wall or floor with FAIRFACTS CHINA PIPE ESCUTCHEONS of a suitable size.

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THE FAIRFACTS COMPANY, 104 East 41st Street, NEW YORK CITY
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This service includes very complete information regarding Tile—in all its forms—in its variety of styles, shapes, and colors, and the methods of applying it.

All of this data, representing the experience and knowledge of our individual members and of the Association itself, is at the command of Architects. Your inquiry will be given prompt and careful attention.

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UNITED STATES ENCAUSTIC TILE WORKS
Indianapolis, Ind.

Offices: BEAVER FALLS, PA.
This inviting entrance was designed by Graham, Burnham & Company, for the Building Material Exhibit in the Insurance Exchange, Chicago. The unique decorative scheme was successfully carried out in “Northwestern” Polychrome Terra Cotta.

With “Northwestern” as his medium, the architect is free to employ a wide range of expressional forms. His most delicate color conceptions may now be realized, whether in Persian Faience, Della Robbia or Wedgewood.

Our illustration but faintly suggests the beauty of the original, as to coloring or detail. Visitors to Chicago are invited to inspect this entrance, which is the pride of the Exhibit.
IMPROVED
Sectionfold
Partitions
(Patents applied for)
Specified for Schools,
Churches, Clubs,
Y. M. C. A. Buildings, etc.
Floor action only. No
overhead hangers

"Simple of Construction
Easy of Operation"

SEE SWEET'S

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SHERARDUCT was used
exclusively in the magnifi-
cent Public Auditorium,
Portland, Oregon. This
building was opened for
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1917.

SHERARDUCT
Sherardized Rigid Steel Conduit
National Metal Molding Co

Manufacturers of
Electrical Conduits & Fittings
1124 Fulton Building Pittsburg, Pa.

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Freedlander & Seymour
New York City
Associate Architects
Whitehouse & Fouilhoux
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INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
July, 1917
Cottage in
Roofed with
very small (10 x 6 in.)
slates
Note the fine "fish-scale" roof texture

Specialists in
Roofing Slates
Colorprint facsimile-folder of our various slates mailed on request

Address at
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Durability — Keystone — Satisfaction

The high standard of excellence for Keystone Copper Steel Sheet and Tin Mill Products assures architects and builders greater durability from Galvanized Sheets, Metal Roofing Products, and all exposed sheet metal work. Superiority in service explains the remarkable demand for Keystone products:

<table>
<thead>
<tr>
<th>Year</th>
<th>Tons</th>
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<tbody>
<tr>
<td>1911</td>
<td>5,311</td>
</tr>
<tr>
<td>1913</td>
<td>74,496</td>
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<td>1914</td>
<td>105,072</td>
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<td>1915</td>
<td>158,487</td>
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<tr>
<td>1916</td>
<td>232,336</td>
</tr>
</tbody>
</table>

Send for our latest Keystone Booklets describing actual service tests.

American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

District Sales Offices:

Chicago Cincinnati Denver Detroit New Orleans New York Philadelphia Pittsburgh St. Louis
Export Representatives: United States Steel Products Company, New York City
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Greater versatility in stucco

Stucco has been used successfully for a wide range of constructions and treatments: from bungalows and small garages to country houses and massive railway stations, in Moorish, English half-timbered, Colonial and other styles.

Now, in addition, there has been developed a stucco with great variety of color, tone and texture—stucco that is variegated with colored marble or granite screenings and tinted sands; stucco with life, warmth, character and interest.

Our monograph "Color Tones in Stucco" contains reproductions of specimen panels in full scale and color, with formulas, also specifications for this new color aggregate stucco. Send for your copy of this monograph.

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Members of the Portland Cement Association
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Loose numbers to be exchanged for Bound Volumes should be sent to the office of the Journal at The Octagon, Washington, D. C. Missing numbers will be supplied at current rates of 35 cents per volume.

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Journal of the American Institute of Architects

*We reserve the right to advance this price after May 1. Morocco is very scarce at the moment, and may shortly be unobtainable.
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Equipped with

THREE TRACTION TYPE
PASSENGER ELEVATORS

by the

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Industrial Section Journal of the American Institute of Architects July, 1917
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Mr. Russell F. Whitehead,
132 Madison Avenue,
New York City,
New York.

May Fourth
1917
THE CHORUS
Signor Perugini—1912
Mr. Coburn—1916
(This illustration is of Mr. Coburn)
IN THE UNITED STATES SENATE, on August 2 last, there was discussed the bill for the new Treasury Department Building which it has been proposed to erect on the lot owned by the Government at the corner of Pennsylvania Avenue and Lafayette Square, and facing the present Treasury Building. In the preliminary discussion of the project, Senator Smoot offered the opinion that it seemed best to wait, if it were possible, until after the Public Buildings Commission had presented to Congress the result of its investigations into the present rented building situation and its recommendations for a comprehensive building program based upon the needs of the Government. It is unfortunate that the wasteful and shortsighted public building policy of the past should bear so heavily upon the departments at this time, yet it was perhaps necessary that so stern and vital a necessity should appear in order to fully expose the lamentable situation which has long cried aloud for relief. Now we need, as never before, the space which should have long ago been provided. Lack of it means delay. Delay means expense. Indeed, there need be no hesitation in asserting that the chaotic public building condition in Washington, due to years of neglect and political juggling, has cost the nation millions of dollars in the delay of war preparation.

Senator Smoot no doubt had all of these things in mind when he spoke on the Senate floor, although he declared his opposition to be based also upon other factors, such as the cost and the amount of time necessary to construct. We feel sure that he had no wish to make the departmental space situation any worse by opposing a bill to provide more space. He believed that it would be wiser to wait, unless waiting entails such a handicap as cannot be longer tolerated. The plot upon which it is proposed to build is part of a square which has been designated to be surrounded by the Executive Group. We understand that in planning for the proposed building this ultimate development has been taken into careful consideration, as suggested in the May Journal, so that the proposed structure, if erected, would fit into the further occupation of that whole side of the square.

THE BILL FOR THE BUILDING originated in the House. The Committee on Public Buildings of the Senate, through Senator Swanson, its Chairman, offered an amendment providing that the plans should be submitted to the Commission of Fine Arts. The discussion on this offered amendment was so revealing of the two attitudes toward public buildings in Washington that we have reprinted it as a supplement in this number of the Journal. The amendment was adopted, as will be noted, and the bill was finally passed by the Senate on August 15. It has not yet been passed by the House.

OF VERY GRAVE CONCERN is the new building to be erected on the site of the abandoned Arlington Hotel project at the corner of Vermont Avenue and H Street. This site touches the open square which faces the White House and will place a difficult obstacle in the way of carrying out the project for the Executive Group. It is to be an office building and is, we are informed, to be used largely for the
Navy Department, special provision apparently having been made for its lease or rental. In the face of the present heavy duty laid upon the Navy Department, one cannot heap upon this undertaking the reproaches which it would ordinarily deserve. If the Navy Department cannot be housed in any other way, we must submit to the inevitable, and yet this is one of the rented building projects which we have fought so diligently, to which Congress is becoming more and more opposed, and which might be forever ended if the report of the Public Buildings Commission were before Congress. It is impossible, even in the face of the war, to escape regret at this most serious inroad upon the immediate vicinity of the White House. Whatever may be the merits of the building, it is not of a type to be permitted on the site, and the realization of the Executive Group is postponed to a far distant future and will be then saddled with a cost to make the Nation wince. Let us at least hope that out of the penalties now being paid, in many ways, there may be born an appreciation of the duty of Congress to forever prevent a recurrence of the condition which now retards our actual preparation for war and also inflicts a material injury upon the Capital.

The Minnesota Chapter has issued a circular letter to its membership, as well as to the architects of the Northwest generally, in which it sets forth, in words which admirably reveal the fine spirit of its proposal, the feeling that those architects who are not permitted to take an active part in the war should, to quote, "do all in our power to make the personal loss and sacrifice of those going as small as possible."

There is appended to the circular the following pledge, which it is safe to be assumed will be as widely signed as it is circulated:

I hereby pledge myself to do all in my power in behalf of those architects who have entered the service of the United States, either directly or indirectly in the present war.

I further agree to take over the practice of any such architect, if requested, carry his work through for him in his name, accept no personal commission on his work, keep his name in evidence, paying all expenses incurred out of the payments accruing to him, and render a complete and careful accounting to him or his estate when all is finished.

I further agree to protect his clientele and his reputation as carefully as if it were my own, and to do no work for his clients except in his name, until such time as he may return.

Architecture and the Drama are too closely related to leave any need for emphasizing the value of this kinship. In this number of the Journal we have provided a series of articles which are knit together around the future of the drama, of the part that a revitalized stage may play in contributing to our national culture, and of the position which the architect may occupy in cooperating with writer, actor, and manager to make the structure of the theater itself a coordinated part of the whole. Incidentally, the Journal welcomes the opportunity to pay, in the name of architecture, a tribute to one of the great arts of all time—to an art which is older than architecture by as long a space as man antedates his buildings—and to an art which has suffered in common with all the others, the maladies of commercialization. But that we may not decry. It is through it and out of it that we must work by ceaseless struggling to win support for a system of education which shall show the falsity of stifling imagination and all powers of expression in exchange for mere efficiency as a cog in a producing machine. It is only when people have known the joy of the creative power that they begin to enjoy the creative powers of others. To this end it is perhaps safe to say that no art offers so great a power of influence as that of the drama.

It is the first art to which children turn with an understanding of its demands such as leaves us amazed at their perceptions of what is dramatic in their life and their surroundings. Life itself is to them a drama, and they instinctively wish to take a part. The processes by which that instinct is supplanted are those which comprise what we call education, and by those processes life is gradually stripped to a uniformity of thought and action against which the artist must contend in the hope that here and there he will find someone who has escaped from the clutches of dogmatized knowledge. The only chance is to escape, as things are at present, but here again we must struggle not to discard education but to make it really educate. In that purpose the drama can do great things—witness the strides made by the Drama League of America.
Specialization in the Modern Practice of Architecture

TURNING now to the composition of the profession itself, it is not clear how far there can be said to be a tendency to an increasing specialization and differentiation among its practitioners. There are, of course, architects who obtain a stream of work in a particular line and acquire a professional reputation for that line. There are, for instance, architects who build more schools than anything else and others more lunatic asylums. Architectural firms let it be known that they specialize in warehouses and factories, whilst others get a reputation for churches. There is quite a distinct small class of brewers’ architects whose business lies in public houses.

The architectural profession differs, it may be said, from that of the painter or sculptor on the one hand, and from that of the public accountant or actuary on the other, in the fact that it includes a large amount of what is called consulting work, where the architect is called in, not to erect a building, but to give some advice, testimony or decision with regard to a job in which another architect has been engaged or respecting an existing building in which no architect is concerned. No small part of the aggregate remuneration of the profession must be derived from this “consulting practice,” whether it is as adviser or expert witness in litigation, or as assessor or umpire in arbitration proceedings, or as valuer of buildings, property, or (less frequently) as referee in disputes between two architects themselves—to say nothing of the quasi-judicial functions of the district surveyor or building surveyor under metropolitan or other statutory regulations of new buildings. A perpetual stream of complicated issues concerning structural damage resulting from building operations, “ancient lights” and other easements, sanitary grievances, leasehold interests and ground rents, dilapidations and “extras,” and all the innumerable grounds of disputes between builders and their employers come, in these ways, not unprofitably before the consulting architect.

Many architects, especially in London, specialize to such an extent in arbitration proceedings and legal work, or other consulting business, as practically to give up erecting buildings of their own design. But all this, extensive and profitable as it is, can hardly be said to make for the establishment of a “consultant” branch of the profession. Occasionally two architects will be employed for the same building, when a professional of experience and repute is asked as “consulting architect” to guide and assist a younger and less experienced practitioner.† We do not know how far the practice prevails of one architect professionally consulting another, in order to obtain for his plans the advantage of the consultant’s superior artistic taste or ability for design, or the consultant’s expert knowledge in the use of steel ferro-concrete or other material, or the consultant’s exceptional experience in a particular kind of building, such as a school, a hospital, or an asylum. As among the public accountants, this eminently sensible practice may be coming in.‡

Unlike the medical profession, however, the architectural profession seems not to have developed any class of practitioners who devote themselves wholly to this consulting work and do not themselves engage in ordinary general practice, possibly because an architect who did not himself build would soon cease to be deemed competent to advise! There are, how-

*A good idea of the range, variety and complication of this work is afforded by “The Consulting Architect,” by R. Kerr, 1886, 313 pp.

†It is found in practice that the architect is seldom a good advocate in a case of his own, his indignation too frequently getting the better of him in a question which seems to touch his professional credit.” (Ibid., p. 71.)

‡Various authorities, such as the National Government Departments or county or municipal bodies, the Ecclesiastical Commissioners or the Incorporated Church Building Society, may require plans of buildings in which they are interested to be submitted to their own consulting architects for discussion.

“The late William Burges, a man of the most inventive genius, used† frequently to submit his designs to another architect for criticism and advice, “giving his colleague his fee and then following his advice or otherwise as he thought best.” (“Architects,” by Alfred Waterhouse, in “Unwritten Laws and Ideals,” by Miss E. H. Pitcairn, p. 355.)
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ever, other signs of fission. The quantity surveyors, indeed, may almost be said to have made this branch of consulting work into a separate branch of the profession which deals only with other architects. The district surveyors, in so far as they abandon general practice, are practically in a similar position. The members of the Institute of Naval Architects belong undoubtedly to the engineering profession.

The Council of the R.I.B.A.

It remains to be said that the Institute—to which two women have been, without discussion, admitted as Associates and one as Licentiate—has a constitution which bears the marks of past controversies and of the members' revolt in recent years against a too-continuous rule of old and trusted leaders. The Council may now consist of no fewer than forty-two members of eight different kinds. There is a President, two Past Presidents, four Vice-Presidents, an Honorary Secretary, eighteen Fellows, six Associates, the presidents (being Fellows) of the three largest of the allied societies, the presidents (being Fellows) of not more than six of the other allied societies in a certain rotation—this possible admission of no fewer than nine representatives of small provincial societies, though generally approved, being sometimes resented—and one Fellow or Associate officially representative of the Architectural Association. This Council is (since 1894) elected by all the Fellows and Associates in the United Kingdom by voting papers issued and returned through the post. So as to ensure a contest, the Council is required to issue annually, a fortnight before the annual meeting in May, a list of nominees which must include, besides the names proposed for the presidency, the two places of Past Presidents, the four of Vice-Presidents, and that of Honorary Secretary, the names of at least twenty-two Fellows (for the eighteen places) and of eight Associates (for the six places), whilst at the annual meeting any seven or more members (a majority of them being Fellows) may nominate any other candidate. A week later the full list, all candidates having equal typographical prominence, is to be issued to all members in the United Kingdom. The votes are returned by post, unsigned, and inclosed in sealed envelopes, with an outer envelope on which the member authenticates his vote. The anonymous votes are counted by independent scrutineers, who announce the result to the first business meeting in June of each year, at which any tie on the postal vote is decided by the votes of the members there present. Three of the Fellows and one of the Associates who have been elected to the Council—chosen by seniority in continuous service—become each year ineligible for re-election during two years. The President is now habitually re-elected for a second year, but is then ineligible for re-election during two years, and is, in fact, never again chosen. The Vice-Presidents, after four years' service, become similarly ineligible for re-election during two years. No Past President may serve on the Council for more than three successive years. Even the Honorary Secretary is made, after six years' service, ineligible for re-election for two years. Four separate standing committees have to be appointed annually for the promotion respectively of the art, science, literature, and practice of the profession of architecture; and each of them has to be elected (so far as concerns ten Fellows and six Associates) by the whole of the members in the United Kingdom by the same elaborate secret postal vote as that for members of the Council. To the members thus elected to each standing committee, the Council may add not more than five others, at least one of whom must

*The public officers who are so curiously designated "district surveyors," appointed under the Metropolitan Building Acts—architects who have under Sec. 140 of the London Building Act, 1894, to obtain a certificate of competency for their post, which is at present given after examination by the R.I.B.A.—have long had an organization of their own, the District Surveyors' Association, to which nearly every one of them belongs. We do not hear of any corresponding organization among the similar "building surveyors" in towns outside the metropolis. It is the duty of the district surveyor (who is not to be confused with the surveyor of the Borough or District Council, who looks after streets and drains) to scrutinize all plans for building work, whether of erection or alteration, and to pass them only if their execution would not constitute an infringement of the building regulations. He is remunerated by fees, which the builder usually pays. The duties of the district surveyor are accordingly those of a "building policeman" or "architectural magistrate" exercising very summary jurisdiction. The District Surveyors' Association protects the members against their superior, the London County Council, by whom they are appointed and by whom their districts are fixed, and maintains relations of friendly vigilance with its building act committee and superintending architect. But it also holds meetings of its members when any doubtful or disputed point of practice arises. The members discuss and come to a common decision, to which they severally conform. In this way, it is claimed, "mistakes on the part of individual members tending to compromise the general repute" are avoided ("The Consulting Surveyor," by R. Kerr, 1856, p. 209). Wrongful decisions are overruled and corrected, and correct individual judgments are supported. The district surveyor is not absolutely excluded from private practice as an architect—all those appointed in recent years have had to agree to abandon it—but if he is concerned in any building within his official district, the plans have to be submitted to one of his colleagues appointed by the County Council.

There is also no "color" bar. A few Hindoo Fellows, Associates and Licentiates are practising in India and East Africa.
be a member of the Council. No member may serve on more than one of these standing committees, and no member is eligible to serve on the same committee for more than six successive years. The Council nominates the recipient of the annual Royal Gold Medal, but even this may be disputed by any twelve Fellows, when the special general meeting of members must decide.*

What the Organization of the Architectural Profession has Accomplished

Apart from the really great improvement in architectural education, in which professional organization among architects has, directly and indirectly, played a large part, it can not seriously be doubted that considerable advantages have really been secured to the profession by its steadily increasing organization. It is clear that architects, as a whole, have risen steadily in public estimation. Even if we cannot claim that the artistic achievements of the common run of practitioners have been very remarkable, there is little doubt that they show much greater competence and skill in the arts of construction—complicated as these have been by the successive introduction and ever-increasing employment of new materials, the increasing dimensions and variety of the buildings required, and the constant multiplication of legal restrictions. Whilst, on the one hand, the difficulties of the architect's work have in these ways been greatly increased, the existence of such an expert powerful body as the Institute affords him an untold amount of assistance in technical matters, partly by expert investigations and the publication of valuable information; partly by giving to inquirers authoritative replies on knotty points of practice. The publications of the Institute on brickwork, on commercial paints, or reinforced concrete, on lightning conductors, and what not, have been of great value. An attempt has been made to extend to the individual practitioner who is harassed by legal proceedings the strong shield of a Professional Defence Fund, but this cannot be said to have been yet properly established. By constantly pegging away for three-quarters of a century, the professional organizations (notably the R.I.B.A.) have gone very far in the way of imposing on public authorities, if not on individual clients, conditions for competitions in the submission of plans which afford a reasonable protection to those who compete. One of these conditions is that the competing plans shall be reported on, and the adjudication therefore practically decided by a professional architect, acting as assessor, who is often nominated for the purpose by the President of the Institute. "It is an unwritten law," since, indeed, expressly formulated, that no assessor can by any possibility become the architect of the building over whose inception he has been the guardian, for he has naturally great opportunities of ingratiating himself into the good opinion of the Committee.* It may be claimed, too, very largely for professional organization, that not a little advance has been made in clean-handed honesty among architects—the point on which the founders of the Institute in 1834 laid most stress. We cannot yet say that no one calling himself an architect is ever guilty of accepting commissions from those who supply building materials or accessories, whether "discounts" in return for the inclusion of their articles in the specification, or "discounts" allowed to the architect when he accompanies this client to choose particular patterns; we cannot yet feel assured that anything in the nature of presents or gifts from builders or contractors is quite unknown; it is not certain that all the architects interested in royalties on patents, or as sole or part proprietors of, or dealers in, particular builders' materials or accessories, make the fact of their interest known to their clients before ordering these articles to be used; we do not invariably find the architect abstaining from holding shares or a partnership or some other pecuniary interest in business contracts.

*The "provident" or "charitable" side of the Institute, for the assistance of members in distress, takes the form of a distinct organization, the Architects' Benevolent Society, established 1850, which is supported entirely by voluntary contributions. Arising among the members of the Institute, it has always been almost entirely composed of its Fellows and Associates, and it is staffed and managed at the office of the Institute, but it is open to every architect, either as subscriber or beneficiary; and one place on the Council is reserved for a representative of the Society of Architects. The T-Square Club, a private social gathering, often assists the Benevolent Society. There is an Architects' and Surveyors' Approved Society, under the National Insurance Act, for the benefit of all employees of architects, surveyors, and quantity surveyors, whether architectural assistants, draughtsmen, clerks, or typists. This society, which now has over 1,000 members, of whom 37 are women, was formed by the Architectural Association in conjunction with the Institute, the Society of Architects, the Surveyors' Institution and the Quantity Surveyors' Association.

**Architects" by Alfred Waterhouse, in "Unwritten Laws and Ideals," by Miss E. H. Pitcairn, 1899, p. 351. It may be noted that Bodley was permitted to help Scott in carrying out the design for Liverpool Cathedral.
cerns or land companies with which he is brought in professional contact; in short, we cannot yet feel confident that no other consideration ever enters into the architect's specifications than the interest of his client. But there is every reason to believe that these practices—once, it is to be feared, common "customs of the trade" among architects and surveyors—are now much less frequent. They are at any rate now unequivocally denounced as acts of dishonesty and are, in fact, unknown in the practice of respectable members of the profession. To pass to minor derelictions, the Institute (and also the allied bodies and the newer Society of Architects) have more or less elaborate formulated ethical codes which prohibit public advertising, enjoin the signature of plans "in an unostentatious manner," and deprecate the exhibition of the architect's name on boards or hoardings. No architect may deliberately seek to supplant another—a consideration not always extended to architects in the salaried employment of public authorities—or take part in any competition which has been publicly blacklisted in the R.I.B.A. Journal; members of the Institute are expelled for this professional offence. He is definitely told that he must not, whilst practising as an architect, carry on the business of auctioneer or estate agent.* If he takes out quantities for his buildings (for which the Quantity Surveyor's Association prescribes a uniform commission at the rate of one and one-half per cent), he should be paid directly by the client and not by or through the builder. If he has any pecuniary interest in anything proposed to be used in his building, he is required at once to inform his client of such interest. It is nowadays extremely "bad form" for an architect to solicit business or ask for work, otherwise than indirectly by taking part in a competition.† It seems to be still a moot point to what extent, and with what degree of secrecy, an architect may, in his designs and plans, honorably make use of other men's talent, whether this be the talent of the pupils and assistants in his office, whose cooperation he does not openly acknowledge,* or the superior talent of another practising architect whom he employs as a consultant, or the simply purchased talent of a needy "ghost." There is no agreement as to how far the imitation of other men's designs, or their adaptation to different buildings, amounts to a blame-worthy plagiarism. Finally, with regard to the scale of charges, elaborate regulations have been in force for half a century, based on the general principle of five per cent commission on the total outlay—this fee covering the preparation of all necessary drawings and specifications, all the correspondence and all ordinary supervision of the work—which, though not binding on either clients or architects, are the more generally adopted throughout the profession because their effect has been to maintain rather than to reduce the scale to which individuals might have been driven.† This method of remuneration is criticized as unfair both to the younger and to the more distinguished practitioners, because it prevents the former from offering their inexperienced services at lower rates and stands in the way of the men of greater skill obtaining the reward of their ability. It is not easy to determine to what extent the practice of paying a lump sum fee is coming in. The fashionable architect who can name his own terms will often refuse to undertake a small commission under a fee several times as large as his five per cent on the cost would amount to. On the other hand, the architect of a great asylum for a county council may find a lump sum fee of several thousand pounds very remunerative, though considerably less than five per cent on the outlay. The principle of equality in the rate of remuneration for jobs differing very much in size and complexity, and for work done by practitioners of varying experience and competence, is, moreover, mitigated in practice by the time and extra services lavished without stint by the

*About a score—say two per cent—of the architects so describing themselves in the London Directory for 1915 proclaim themselves as also estate agents. These are presumably not members of the Institute.

†"The times have certainly changed for the better since the leader of the profession did not hesitate to take round his portfolio of designs to those personally unknown to him who were supposed to have the erection of a church in view." ("Architects," by Alfred Waterhouse, in "Unwritten Laws and Ideals," by Miss E. H. Pitcairn, 1899, p. 357.)

‡It is not clear how far the profession contents itself with the legal position. "The implied contract is, in commercial language, not that the architect shall do the requisite work with his own hand, but that he shall procure it to be done." ("The Consulting Architect," by R. Kerr, 1886, p. 387.)

§Yet there have been gentlemen of position in the Institute who could permit themselves to be retained, against the personal claims of other members, in a court of law, to explain away . . . with all the licence of advocates at the bar, the schedule of professional charges imposed by the Institute. ("The Consulting Architect," by R. Kerr, 1886, p. 215.) The Institute has been latterly engaged on a revision of the scale—retaining five per cent as the normal basis, but providing for increased remuneration on commissions below £5,500, and in other cases. This has been suspended during the war.
THE ORGANIZATION OF THE ARCHITECTURAL PROFESSION

young men, whilst the busier leaders find their advantage in a continuous stream of commissions and are able to make concessions on the enterprises of exceptional amount (notably in the larger jobs involving little work in comparison with their magnitude, such as hospitals, asylums, or prisons) which tend naturally to fall into their hands. A more fundamental criticism—that remuneration by a percentage on whatever may prove to be the ultimate cost, without any fixed limit, gives the architect a direct pecuniary interest in extravagance in building, in the multiplication of extras, and even in the builder's overcharges, and that, at any rate, it discourages too much toilsome zeal in discovering the points at which the builder's inferior execution calls for a cutting down of his charges—seems to have been so far ignored by the professional associations. It is only fair to add that (apart from the obvious proposal that the architect's commission should be reckoned always on the original estimate of expenditure only, and should be deemed, without increase, to include "extras" up to, say, fifty per cent) no satisfactory alternative method of remuneration has yet been suggested. It is possibly partly due to this failure to devise a less invidious method of remuneration that the constantly recurring grumbling of the independently practising architect against the architectural work of public authorities being entrusted to architectural departments, presided over by architects employed at fixed salaries and served by staffs of professionally qualified assistants—a practice which seems to be steadily increasing—has had practically no effect.

APPENDIX

With regard to the professional organization of architects in other parts of the British Empire, we have but little detailed information. In the self-governing Dominions, local organizations seem to have sprung up spontaneously on the British model, and these bodies were admitted to formal alliance with the Institute, the first (New South Wales) in 1892, and the nine others between 1907 and 1913.

In the commonwealth of Australia, where there are still not so many as five hundred architects in any way organized, there are now societies in all the six states. The first to be formed was apparently that of the architects of New South Wales, whose Institute dates from 1871, but was reconstructed in 1890. It has 73 Fellows and 56 Associates, of whom a score are Members or Licentiates of the R.I.B.A. It has adopted a "Code of Professional Practice and Charges" and publishes an illustrated bimonthly journal, The Salon, which serves also as the organ of the other Australian institutes of architects. It was by a long way the first to enter into alliance with the R.I.B.A., which it joined in 1892, fifteen years before its example was followed.

In Victoria the architects organized as early as 1871, the Institute becoming incorporated in 1890. It has 59 Fellows and 59 Associates, of whom 17 are Members or Licentiates of the R.I.B.A., with which it did not ally itself until 1910. An Architect's Registration Bill was introduced into the Victorian Legislature as long ago as 1888.

The South Australian Institute was founded in 1886 and incorporated in 1890. It has 26 Fellows and 16 Associates, of whom half a dozen are Members or Licentiates of the R.I.B.A., with which it did not ally itself until 1912.

In Queensland organization dates from 1888, but the Institute then founded was revised in 1904 and again in 1910. It has 23 Fellows and 14 Associates, of whom 4 are Members or Licentiates of the R.I.B.A. with which it allied itself in 1913.

The West Australian Institute dates from 1892 but was not incorporated until 1902. It has 25 Fellows and 10 Associates, of whom 3 are Members or Licentiates of the R.I.B.A. to which it allied itself in 1910.

The Tasmanian Institute of Architects, though of some years' standing, has not entered into alliance with the R.I.B.A.

The six Australian Institutes formed a Federal Council in May, 1915, "to represent the profession in all matters of a Federal character, especially in dealings with the Federal
Government, and to bring about uniformity in Australian practice.” All the Australian Institutes make use of The Salon, the bi-monthly journal of the New South Wales Institute. Since the Architects’ Registration Bill appeared in the Victorian Legislature in 1888, no information is available as to any progress of this movement.

In New Zealand organization dates only from 1905, when its Institute was established, having autonomous “District Branches” at Auckland, at Wellington, and for Canterbury, Otago, and Southland respectively. These have (Auckland) 29 Fellows and 11 Associates; (Wellington) 23 Fellows and 28 Associates; (Canterbury) 12 Fellows and 16 Associates; (Otago) 15 Fellows and 8 Associates; (Southland) 4 Fellows and 7 Associates—a total of 107 Fellows and 72 Associates, of whom 28 are Members or Licentiates of the R.I.B.A. This Institute, which came into alliance with the R.I.B.A. in 1912, has scored a triumph in getting its scheme of registration of architects carried into law, though with what result on the status and remuneration of the profession is not known.

In the Union of South Africa, where there are local organizations for the Cape Colony, Natal, and the Transvaal respectively, there seem to be some five hundred architects in general practice as principals, of whom at least half are not in any kind of organization.

The Cape Institute was founded in 1899. It has 32 Fellows and 9 Associates, of whom 17 are Members or Licentiates of the R.I.B.A., with which it became connected in 1907.

The Natal Institute dates from 1901, but was not incorporated until 1902. It has 20 members (the titles of Fellow and Associate not being used), of whom half a dozen are Members or Licentiates of the R.I.B.A., with which it allied itself in 1909.

The situation in the Transvaal Province is interesting. The Transvaal Institute of Architects is centered at Johannesburg. This body, said to comprise most of the older and better established practitioners, has 38 members, of whom 10 are Members or Licentiates of the R.I.B.A., with which it entered into alliance in 1908. There is also a South African branch of the Society of Architects, mainly centered in Johannesburg. This body, supported by its parent society, agitated strongly for statutory registration, which it succeeded in obtaining in 1909, by the Architects’ Private Act (Transvaal), which the Provincial Legislature passed in that year. Under this Act all the architects then practising as principals in the Transvaal—180 in number, including the members of both the above bodies, and many others—were enabled to unite in the Association of Transvaal Architects, and, in return for an initial fee of five guineas and a subscription of five guineas a year, were placed upon a statutory register. Only registered practitioners are allowed by law to style themselves architects. They elect a Council to manage the register, but, owing to defective drafting of the law, the Council finds itself powerless to take any other action on behalf of the profession. A scale of fees which it sought to impose by by-laws had been set aside by the courts. Moreover, the Council finds itself unable to stop all sorts of persons—estate agents, civil engineers, builders, and so-called “structural experts”—from advertising for and undertaking architectural work.

Under these circumstances the movement for any extension of statutory registration to the whole Union makes little progress, though a long and complicated bill was prepared in 1913. The activities of the Cape, Natal and Transvaal Institutes seem to be mainly concentrated on inducing the Government of the Union to make better regulations for competitions for plans for public buildings, in particular for the adjudication to be made by expert assessors, of whom two should be nominated by an architectural advisory board.

The Canadian Dominion, which apparently finds work for more architects than all the rest of the British Empire outside the United Kingdom, has a considerable record of provincial organization, especially in Montreal and Toronto, although the movement for a federal union of the profession is scarcely a decade old.* Omitting details as to the local associations, we may note that, in 1907, the Institute of Architects of Canada was established, having for its object the federation of all the Canadian bodies. This object was successfully accomplished in

*There seems to be no local professional organization in Newfoundland, where half a dozen members of the Royal Architectural Institute of Canada are in practice.
1912, when a special Act of Parliament was obtained, and what had meanwhile become the Royal Architectural Institute of Canada was given a new Council of twenty members composed of delegates of seven provincial associations. The Institute is now geographically organized for Quebec, Ontario, the Maritime Provinces, Saskatchewan, Manitoba, Alberta and British Columbia, respectively, with a General Assembly meeting annually. The Institute, with about eight hundred members, now dominates the profession throughout the Dominion. Its General Assembly in 1908 adopted an elaborate Code of Ethics, scale of Fees and Regulations for Architectural Competitions, by means of which it is seeking to standardize professional practice from the Atlantic to the Pacific. Not more than thirty of its members belong to the R.I.B.A., either as Members or as Licentiates, and it did not enter into alliance until 1909.

Registration is, in Canada, still a provincial question. Ten years ago a law was passed by the Alberta Legislature for the registration and certification of all architects practising in this province—all those then in actual practice being admitted, whilst any newcomers had to prove their competence to the satisfaction of the Examining Board of the Alberta Architects' Association. It is reported that similar legislation is in process of adoption by the other provinces.

In the other parts of the British Empire, notably Egypt, East Africa, India, the Straits Settlements, Hongkong, the West Indies, and the West African Dependencies, a certain number of British architects carry on practice, several of them members of the R.I.B.A. or Society of Architects (including some Hindus), but there is no local organization. In British East Africa, where objection is raised to the admission, by the R.I.B.A. and the Society of Architects, of persons of any color, there is a separate East African Association of Architects, confined exclusively to local practitioners of the Caucasian race, which has applied for alliance to the R.I.B.A.

We have been unable to put together any information as to the professional organization of architects in continental countries. The profession is everywhere more closely connected, both with the Government and with the universities and learned academies than it is in the United Kingdom. We note that in France, where the profession occupies a very distinguished place, there is a Société Centrale des Architectes Français; an Association Provinciale des Architectes Français, with its own monthly Bulletin; a Société Nationale des Architectes de France; and, in some ways, the most distinguished of all, the Société des Architectes Diplômés par le Gouvernement. There is also a Caisse de Défense Mutuelle des Architectes, and a whole series of local associations, or sociétés regionales d'architectes, such as those of the Department du Rhône, the Department de la Maine, De la Basse Normandie, Du Nord de la France, d'Angore, de Lyon, etc. There is also a Société des Diplômés de l'Ecole Spéciale d'Architecture.

In Germany and Austria there seem to be great professional associations admitting both engineers and architects, in which a large part of the attraction of membership may be the excellent technical journals that are thus published. We note the great Verband Deutscher Architekten und Ingenieur Verein at Berlin, and the Oesterreichische Ingenieur und Architekten Verein at Vienna, each with its weekly journal. But there is also a powerful Architekten Verein at Berlin, a separate Vereinigung Berliner Architekten, and local Architekten und Ingenieur Vereine at Frankfurt, Mannheim and elsewhere. In Hungary there is a Magyar Mernok es Epitesz Egylet (a society of engineers and architects), and also a society of private architects. Switzerland, too, has the Schweitzischer Ingenieur und Architekten Verein. Holland has its Maatschappig tot Berorderung der Bouwkunst, and also the Genootschap Architectura et Amicitia. Belgium has its Société Centrale d'Architecture de Belgique, and also its Chambre Syndicale des Architectes de Bruxelles, its Société Royale des Architectes d'Anvers, its Association des Architectes de Liége, and other local organizations. In Italy there is the Societa degli Architetti Italiani, with its weekly Bolletino, and also an Associazione Artistica fra i Cultori di Architettura, and a Collegio degli Ingegneri ed Architetti Italiani at Rome, and similar "colleges" at Genoa, Turin, Messina, Florence, Milan, Palermo, Bologna, Bari, Venice, etc. Russia has La Société Imperiale des Architectes Russes, with a
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

monthly journal, and Sweden its Svenska Teknologforeningen. In Spain there is the Société Centrale des Architectes Espagnoles and also such local societies as the Association des Architectes de Catalogne, Vizcaya, Navarra, etc. Portugal has its Société des Architectes Portugais, as well as the Association Royale des Architectes et Archéologues Portugais. In Japan there is the Institute of Japanese Architects.

Practically all these bodies, together with many academies of arts, faculties of architecture, architectural schools, and municipal and government departments of works, buildings and monuments in seventeen different countries are represented in the International Congress of Architects, which has been held every two or three years since 1897. An International Permanent Committee, consisting of 100 members, has an office in Paris, and arranges for the successive Congresses, at which several hundred delegates from the different countries meet for a week's discussion.

The Subject of Camouflage

MANY inquiries have been received at the Octagon as to what possibilities there were for architects and others to offer their services in connection with camouflage work. On July 27 last, the Institute was informed officially by the War Department that it had under consideration the question of a suitable organization of the personnel and equipment of such sections of camouflage as might be deemed necessary to raise and maintain after details of the operations of camouflage sections had been obtained from abroad. It had been decided by the Department that, in accordance with existing laws and regulations, such service would become a part of the Corps of Engineers.

The sources from which the personnel may be drawn are fixed by law and, in addition to the Regular Army personnel, include assignment to active duty of members of the Officers' Reserve Corps and appointees from the country at large. Enlisted men will be obtained by voluntary enlistment or by selective draft. In closing its letter, the War Department expressed its appreciation of "the patriotic interest of the American Institute of Architects and trusts that in the furtherance of their desire to be of service, qualified individuals of this Association may see fit to join through voluntary enlistment or by appointment such units as may be authorized."

A few days later Major Evarts Tracy* was appointed to take charge of the organization of a department of camouflage and reported at Washington for that purpose. It is proposed to organize one company without further delay than may be incident to the requirements involved. This company will consist of commissioned and non-commissioned officers, and will, it is expected, be selected from among architects, painters, and sculptors. The enlisted personnel to bring the unit up to the proper strength will comprise metal-workers, carpenters, modelers, cabinet-makers, scene-painters and artisans whose trades have fitted them for the multitudinous occupations involved in the application of camouflage to modern military needs. As far as possible, the commissioned and non-commissioned officers will be chosen from among those who have already registered with the Institute or other bodies. It is not essential that a man should have had previous military training, or that he should speak the French language, although these things are of material advantage. There is no age limit, but it is believed that none will be acceptable over forty-five.

For the information of those who have made inquiry on this subject, as well as for others who desire knowledge, it should be stated that the department of camouflage will be a strictly military adjunct to the army, governed by military regulations. Its work embraces every conceivable kind of operation, from advanced reconnaissance under fire to the simplest form of concealment work designed to secure every form of military operation from observation by the enemy. It is in no sense a studio affair but a definite factor in modern war requiring a knowledge of how to use every form of artifice and how quickly to carry out plans which have been perfected through study and experience.

For the present, one company will be formed. When it will go to France is not known. When other companies will follow has not been determined. In making arrangements for transportation, consideration has to be given to the order of necessities. Many architects and artists of all kinds are impatient to do something. They chafe under the delay. Yet patience is required in these matters, and the practice of it can render a distinct service. All is being done that is possible, and, as we have stated on other occasions, it is far wiser to wait patiently for a chance to do the work for which one is best qualified than to take up something simply for the sake of being active. As soon as it is practicable, we shall publish further information of interest in camouflage development.

*Major Tracy is a member of the firm of Tracy & Swartwout, Architects, New York City, and is Chairman of the Institute's Central Committee on Preparedness, Mr. Aymar Embury II being Vice-Chairman in charge.

[Editor's Note.—Major Tracy has asked us to state that while all possible plans are being made it is well to remember that there is a very real enemy constantly disarranging them, even though the newspaper reports seem to indicate nothing but an unchecked advance.]
Royal Institute of British Architects,
Incorporated in the Seventh year of William IV,
and the fifth of Victoria.
9, Conduit Street, Hanover Square, London W.
11th June, 1917.

To
The President and Council of
The American Institute of Architects:

Gentlemen,

Probably no group of Britons has been wont to enjoy a closer bond of intimacy and mutual understanding with its corresponding group across the Atlantic than that which has so long and so happily subsisted between the architects of your great country and of ours. For this reason, if for no other, it seems natural to us to yield to a very evident desire among our members, the desire to give expression to the cordial and affectionate satisfaction which we feel in the recent practical evidences of close community between our nations.

The world-struggle, a fight not on our side for material possession but for the maintenance of those ideals which are the most precious heritage of man, is, as we all feel, not one in which the exponents of our Art are without interest. Architecture, the least luxurious and the most human of the Arts, can never be aloof from the deeper and worthier interests of mankind. We feel confident therefore that if we, as representing in our degree the architects of Great Britain, send you at this moment a word of heartfelt international greeting you will not think that we are departing from the proper functions of a professional Institute.

Had we any doubt on this point that doubt would be removed by our remembrance of the remarkable utterances of Mr. Cran in October 1914 and the comments of Mr. Clifton Sturgis on the position of England in the War, which together with other expressions by American Architects on the subject have been very eagerly read and warmly appreciated here.

Gentlemen, the heart of Britain has been warmed by America's action. We British architects are not the slowest to feel that warmth; and knowing that with you too the pulse of national life is strong, we feel a lively satisfaction in sending to you - as architects to architects - our very cordial welcome and our acknowledgment of profound pleasure in this union of the already kindred races.

In conclusion we would beg that so far as it may be practicable you will regard this message of ours as a message to the general body of architects in the United States.

With renewed expressions of brotherly goodwill,

We are
Gentlemen,
Yours very faithfully,

[Signature]
President.

[Signature]
Hon. Secretary.

A Fac-simile of a Letter Recently Received from the R. I. B. A. and to Which Proper Reply Has Been Made by President Mauhan and Secretary Parker.
The Théâtre du Vieux Colombier in New York

By ANTONIN RAYMOND

IN THE many attempts of late years to re-create drama as the dominating interest on the stage, architects were not appealed to by any of the reformers until Jacques Copeau, realizing the necessity of the organic unity between the house and the stage of the theater, laid a new problem before them. The architect, aside from solving the practical demands of the problem, had not been supposed to be directly concerned in the creative efforts of the dramatic producer. He was left to drift for himself, free as to style, lighting arrangements, and accessories, and the purpose and amount of ornamentation depended largely on the sum appropriated. Copeau demands a complete understanding of his efforts on the stage, a direct coöperation in his attempts to return to the initial interests of dramatic art and to establish the forgotten bases for dramatic creation. This means that theaters which are designed to house and serve the drama in Copeau's sense are to be of a definite character, and it is not the problem of the architect to determine that character. The architect is to be dominated by the poet and the actor as another element of the organic whole.

In order to make myself clear on the subject I should like to indicate the conditions in Paris and the manner in which they prompted the most important of the efforts toward reform of the French stage of late years—that of Antoine and the succeeding attempts of Copeau, who is coming to this country to bring about an understanding of modern French dramatic art in the United States.

The American public at large is little acquainted with the modern development of the French drama; at best, it associates the French theater with the productions of the Boulevards. But is the Boulevard typically French? To a stranger it seems to be so, but those who observe closely soon will find out that the smallest chance of learning to know Paris offers itself in the neighborhood of the Opéra. Neither the public, the shops, the cafés, nor even the theaters are there characteristic. They are as little Paris as is the atmosphere of the Moulin Rouge, where the German tourists used to go to learn it. It is easily understood that the patrons of those theaters were cosmopolitan. It is more astonishing that their products triumphed and were acclaimed as distinctively French in foreign countries. In Berlin, Copenhagen, Vienna, and other cities they rejoiced in claiming to understand the "finesse" of these "French" creations; judged from that, these cities have just as much sense of humor as they have on the Boulevards. But how comes it that the foreign countries understand Racine, Corneille, Molière but superficially? It is because these playwrights are French, characteristic and national, while the productions of Flers-Caillavet, Wolff, Croissete, and the like, are only to amuse the visiting globe-trotters during their stay in Paris.

In the nineties of the last century the Théâtre Libre was founded. Its creator was Antoine, and its motive was a protest at the conditions I have narrated. It was a realistic theater. Antoine discovered Ibsen for Paris, which had a greater importance than the scenic and the stage management nouvelletées going on at that time. The Théâtre Libre was a program theater. It was a rebellion against the pseudo-dramatic creation and, somehow, a predecessor of the reaction against theatrical symbolism. Of that theatre all that is left today is the name, a symbol only. The Théâtre Antoine is a good example of the general kind. How can one then speak of regeneration if Copeau, seized by the same indignation in 1914, quickly reconstructed the erstwhile popular music hall in the Rue du Vieux Colombier into a new theater, as a protest against the infamy perpetrated on the Boulevards, just as the Théâtre Antoine had, in its turn, been a protest? How is it that the work of Antoine, the purity of which was announced to be the holiest of holies and which has been considered a lasting restoration of the past glory of the French Theater—how is it that it left little or no trace? Copeau says that Antoine's undertaking and all those similar to it.
THE THEATRE DU VIEUX COLOMBIER IN NEW YORK

suffered from a common malady. They were built up on a narrow literary platform and collapsed as soon as the program was in the least abandoned or exhausted. It was more a literary than a dramatic work. He assures us further that he will avoid this fault because he is, fortunately, an eclectic. There does not exist a literary direction to which he would be opposed a priori. He knows only good plays and bad plays. In the repertoire of his first season there were Æschylus, Euripides, Molière, Racine, but there were also Renard, Musset, and Mérimée, side by side with Becque, Port-Riche, Bernard, and Courteline. Among the announced premières there were Vielé-Griffin, Claudel, Saindres and Gheon, Schlumberger, Copeau, Shakespeare, Heywood, Ibsen, Wyspianski, Shaw and Synge.

Copeau's indignation is directed against the repulsive market where the theater fights with moving pictures for the frivolous public; against the unbridled hunger of authors; against the abominable tyranny of competition, which causes big expenses and usually destroys the unity of the play. He has built his theatre away from the electric signs, on the left bank of the Seine, in the quarter of the intellectuals, in the quiet Rue du Vieux Colombier, which gave the theatre the name against which it never sinned.

He saw that the theater had become a dishonorable game, the players again a minor caste for which the frivolous public stands because of its different morality on which it prides itself, while the success of the play is assured by scandalous stories. Copeau wants to "décabotiner" the actor and create for him an atmosphere more fit for his development, human and artistic; to cultivate him; to instil in him a conscience and to initiate him into the morality of his art. That is why he composed his troupe of people bound together by the same enthusiasms and who, though not famous, are not dilettantes. They have a high opinion of their own profession and a repulsion for the ugly comedy which Society plays around the actors, a comedy born only of curiosity and a thirst for sensation, not by respect or love for dramatic art.

Copeau is the first in a long time who in his endeavor to achieve a reform does not lay great stress on the scenic arrangement, as has been customary with the reformers of late years. He does not admit that the decoration and the properties should have a great importance; the importance of the scenic arrangement, according to him, is really negative, the chief concern being to arrange it so that it shall be unimportant. In this resolution seems to lie the real moment of his reform. All theatrical reformers before him could be summed up as scenic reformers (e.g., Rheinhardt). Of course there was a reaction toward simplification of the scene before, but that simplicity seems to have been intentional, and to have been another way of suppressing the poet's work—something done for its own end. Copeau calls it simplism, which does not go always hand in hand with real simplicity, and he sees in this tendency to underline, and to magnify by material means—often naive enough—the poet's intention, an insult to French taste. Drama must be able to express itself by the root elements—the text and the acting. The poet and the actor will again become the only creators on the stage. In so far as they appeal for help to other artists, architects included, they demand, above all, their discretion.

That became the watchword of our endeavor to so reconstruct the present Garrick Theater in New York City as to enable Copeau to use it and yet remain faithful to his principles. Before attempting to sketch out the work to be done in New York I may mention what his theater was like in Paris.

There he has succeeded, with little means, in adapting a music hall, which served the purpose more or less well and was in accordance with his original program. The plan of the theater in the Rue du Vieux Colombier was, unfortunately, a very long oblong with a small stage at one end, its ceiling divided by arches. He enlarged the stage by taking advantage of the arch nearest to it, so that before the stage proper there was a narrow fore-stage. The separation was by an arch structure with permanent wings, and it was possible to isolate the stage by a curtain. The fore-stage was used either in connection with the stage or by itself.

This theater forsook entirely the conventional scenery. Interiors were composed out of wings of neutral colors. The wings remained neutral, too, even for an open scenery with a
prospect and horizon; they were painted by Francis Jourdain. It has to be admitted that by this system of decoration (in the interiors, according to the demand, there was placed a window, a door, or a stair) one can attain remarkable results. It is especially important that the stage be so contrived that in every case both the background and the middle ground are most favorable for scenes which depend upon relief in the sense of the drama. Groups and colored spots are folded and unfolded according to the demands of the dramatic situation and not according to the method of the most and the least important figure. As to the neutral colors of the scenery employed, I should like to remark that this is only the first step and far from the final word; it was adopted to eliminate the unwieldy precedent and as a base for further development.

The war abruptly terminated the activities of the little theater in the Rue du Vieux Colombier, and most of its actors were scattered on the many French fronts. Its director, spurred by the success of his last season, continued, nevertheless, his researches, and the coming winter should give him an opportunity to demonstrate their results in practice.

The theater in New York City is not to be a copy of the theater in Paris. It will be the result of continued studies, and it must be regarded as a further step in the long process of development which has been only started. It is difficult to explain the various problems confronting us in trying to rebuild the Garrick Theater for Copeau without going deeply into his ideas regarding the spirit in which he conceives it, for this is, of course, the reason for the outside forms which it will take. We have to bear in mind all that was previously said about the nature of his reforms and remember that he desires to put fresh life and living interests on the stage, now used for dead forms and conventionalities. He believes that he can do so by bringing about a closer play and intimacy between the actor and the spectator. A great deal of his energy is spent in another direction, that is toward the realization of a fixed stage which would insure the reign of the poet and the actor in the theater, and once again free them from the load of misdirected and wasteful work of continuous scenery changing. The equipment of such a stage would have to be very pliable and would consist of parts adaptable for many uses and worked out with precision as to size and color. It would resemble in many ways children's building blocks, each one for a determined purpose, and the possibility of combinations would be infinite.

The results attained in those directions must yield harmonious arrangements, each working into and with the other, and there is no doubt that the ingenuity and collaboration of architects here can be of great value.

There is reintroduced, for example, the théâtre of the ancient village players. It is a platform about three feet high with steps on each side of a bench at the front and steps in the center of the three remaining sides. By its position and arrangements it naturally forces concentration of action upon a small elevated space. A jump of its full height or the use of its easy steps creates a variety of entrances. A plain cyclorama of neutral color forms both the sides and the background. Sometimes the scene consists of the cyclorama only, and a simple cube in the center of the stage is the pivot for the action. The removable platform over the orchestra pit, a riser's height below the level of the stage, offers another variety, and by it and by a few steps the floor of the auditorium itself can be reached and utilized as a third extension to the stage. The walls around the prosenium opening are pierced by four windows, with small balconies, accessible to the actors, offering another opportunity to extend the stage. The two lower windows can be connected by steps with the stage extension over the pit and serve as doors. It is almost impossible to convey a clear idea of this attempt to systematize and simplify the now so complicated mechanism of the stage. To order it like the intervals of the scale and to play it without effort, to use it as one uses language, is the aim.

The frame of the prosenium opening is strong and dominating, to emphasize the most important part of the theater. The rest of the theater is kept as simple, direct, and unassuming as plain plaster can make it, and a few simple moldings are the only ornament. Great stress is laid upon the lighting, as the desired lighting effects on the stage depend to a great degree on the lighting of the house itself.
THE THEATRE DU VIEUX COLOMBIER IN NEW YORK

Reflected light allows the application of a cold illumination. There are sources of warm, gayer, and more intimate light.

Unfortunately the present theater building, an antiquated structure, is greatly limiting our possibilities, and what, with the little time at our disposal, we shall be able to accomplish remains to be seen.

The New Drama and the Theater of the Future

By PERCIVAL CHUBB
Retiring President of the Drama League of America

A NEW drama is calling for a new kind of theater—or shall we say, in view of the many species of the new drama, for several new kinds of theater? Logically, it would seem that there should be as many kinds of theater as there are major types of drama. Certainly each of the distinctive historic types has had, and should have, its own distinctive kind of theater, as Mr. Brander Matthews has so concretely shown in his "Study of the Drama," which, as he says, is based on "the conviction that all the masterpieces of the dramatic art were originally written to be performed by actors, in a theater, and before an audience of the dramatist's own contemporaries." It is but a step in thought to the general principle that the structure and size of a theater must depend upon the kind of plays intended to be presented in it. A clear recognition of this position is going to lead to a much closer partnership between architect and play-producer; and it must necessarily involve the architect in a wide comparative study of the drama and the whole changing technic of stagecraft.

To understand the present situation in regard to the housing of the drama, the architect must first recognize the thoroughgoing overhauling of dramatic tradition which has been taking place during the past thirty-five years. Only when he has taken stock of what has been going on, will he realize what radical reforms the new drama is demanding, both in the construction of the stage and of the theater as a whole.

There are the many new kinds of plays to inventory, and numerous innovations in lighting, stage-setting (especially the new architectural motivation), and stage construction (the increasing use of the apron stage, e.g.) to reckon with.

The influences which have led to these and other changes are many. If from among them we select that of Ibsen as outstanding, it is not merely on the score of his stage technic, but also by reason of the spirit of the man—his temper of relentless interrogation and challenge. "I come to question," he wrote; and he exacted a veracity which set men to calling in question all their traditions, even the most cherished. Under his influence, and that of the rationalistic movement of which he was part, the modern mind has been sharpened to the keenest scrutiny, even to a settled suspicion of everything that is old and established. There are new ways, a new life; and therefore the old machinery will no longer serve. A new soul must have a new body.

Even as the old type of drama which Ibsen found had to meet this questioning, and has succumbed to it, so must also the one traditional type of theater. We now ask why we should longer tolerate a theater which had its origin long ago under conditions which have ceased to be. Why this yawning, perspective-less stage? this vaulting proscenium arch? those top-lofty seats looking down across a gulf on the diminished heads of the actors? Why those oblique boxes, distorting the vision and revealing all the disillusioning secrets of the wings? These and many similar questions must be met.

So far, the most palpable outcome of this new rationalism is the Little Theater, which plainly announces that certain kinds of plays call for an intimacy which the larger theater makes impossible. How far is that principle to carry us? How many types and sizes of theaters should there be to provide for plays ranging all the way from the cozy parlor play to the most spectacular historical play and...
pageant drama? An answer can be made only after that thorough survey, already insisted upon, of all the new departures and more audacious experiments in playwriting and stagecraft which have been made during this past decade or two. We have to take into account not only the innovations called for by the varied work of Ibsen, Maeterlinck, Barrie, Yeats, Shaw, Synge, Galsworthy, Dunsany, but the new departures of Gordon Craig and his followers; of Ben Greet, Winthrop Ames and Granville Barker; Sam Hume, Stuart Walker, Ernest Jones—to mention only the more familiar names, and omitting mention of what has developed in France, Germany, and Russia. Then there are the less obvious influences of the new pageant-drama, especially the possibilities suggested by the monumental setting and novel devices used in Mr. Percy MacKaye’s “Caliban.” We do not speak of the antique modes of decoration—all the irrelevancies and flamboyances of the old playhouses, which must go the way of the rococo splendors of a by-gone time. They do but serve to emphasize the call for sweeping changes in the treatment of the theater interior.

II

Here, surely, in the creation of a new modernized theater responding in all ways to the spirit of the new drama and the new art generally, is a stimulating challenge for the architect, working, as we have said, in close collaboration with the play-producer of forward vision. We do not suggest a sudden and far-reaching revolution. The theater-going public is not ready for that. But it is getting ready. The work of educating audiences for the new theaters proceeds apace. Much is being done through the Drama League of America. Its growth is the most significant symptom and prophecy of the coming new order of things.* It is the best epitome of impending developments.

The League represents a far-reaching national awakening, on a comparatively small scale as yet (some twenty-five thousand members, not counting its club affiliations), but expanding most hopefully and potently. It includes that rapidly increasing constituency of readers of drama, and of books about the drama in all lands, to whose demands for the printed play the publishers are responding by an unprecedented publication of dramatic literature—a Drama League Series included. It focuses the interest aroused in literary clubs and women’s clubs, in colleges and high schools, in amateur and community organizations; and it is helping to coördinate these. Through its circuit plans it is organizing intelligent theatrical patronage on a large scale. As its recent convention in Pittsburgh showed, it is also helping the Little Theaters to organize; and it looks forward, after the war, to the establishment of a national theater and school of acting. These are some straws on the wind that is blowing strong for change.

There is a gathering revolt here against mere traditionalism in the theater. With it is combined a revolt against the shameful commercialization of dramatic art. An essentially commercial people, we have been tenderly apologetic for commercialism, but we are getting bolder and more truthful. We are going gradually to rid ourselves of the cant that has marked the doings of mere traders in art. We have been dazed and silenced by the enormous commercial success of the “movies;” but we are beginning to get over that, too, and to recover our artistic senses. And with these reactions against commercialism there is springing up a hope and expectation of a more decisively American move-forward in drama which shall bring distinction and beauty to the stage. Soon, surely, there must be an outward and visible sign of this dramatic renaissance in a new type of theater—a new body that shall be worthy of the new soul which is being born amidst all the throes of these tragic times—a new birth of art which is to signalize the larger gestation of a more humane civilization.

*By way of emphasizing and better fulfilling its national function, the League at its recent Pittsburgh convention decided to move its headquarters from Chicago to Washington, where it hopes to connect more intimately and continuously with representatives of all its centers—including those on the distant Pacific coast.
Tai Fah Men
Mr. Reginald Barlow—1912
Mr. Albert Bruning—1916
(This illustration is of Mr. Barlow)
THE DAFFODIL

Mr. Schuyler Ladd—1912-1916

(This illustration is of Mr. Ladd)
FIVE years ago a group of young Frenchmen, met together in a Paris salon, were reading in *Comedia*, the journal of the theater in France, a short letter from Chicago which plunged them first into surprise and then into enthusiasm. The letter told of a play which had been written by two Americans, George Hazelton and Benrimo, after the Chinese method, where the same sumptuous decoration served for all the scenes, where the successive stages of action were announced to the audience by a director, and where a few tables and tabourets, managed by a property man supposed to be invisible, sufficed to construct towering mountains, houses, boats floating upon broad rivers, bridges across abysmal depths, or frowning fortified castles.

Three years ago the same group learned that “The Yellow Jacket” had been produced at London. One of them crossed the Channel immediately, saw the play, fell madly in love with it, and bought the rights for France. A little later the decoration and costumes were acquired and “The Yellow Jacket” would have been seen in Paris in November, 1914, at the Theatre Edouard VII, launched by a group of American, French, and English theater lovers, if the war had not arrived.

The first American production of “The Yellow Jacket” had only a moderate success. Its history is a striking example of how the great American public still fails to discern, unaided, the big American plays. Frohman said of this one: “It will go round the world!” And indeed it has, for soon it will have been produced in every great capital. London, Munich, Budapest, Vienna, and Dusseldorf have seen it. Reinhardt produced it in Berlin with the perfection of detail and the finest group of actors that could be assembled in Germany. Unhappily, the translation was defective and had the effect of retarding the action, for in many places the same passage in German was double the length of the English original. The Berlin critics also complained that the play was more a Chinese demonstration than the living, moving tragi-comedy it was at London. At Moscow it was gorgeously presented, but perhaps not in a spirit absolutely conforming to that of the authors, for we have seen a photograph of the love-boat scene where the boat was not only suggested by the words of the Chorus and the mimicry of the actors, but accentuated also by the form of the drapery.

Recently “The Yellow Jacket” was presented in Spain and in South America, and after its tour of the world, it returned to New York City, finally to be comprehended by the theatergoers of that city and there to pass a triumphal autumn and winter. “The Willow Tree” is perhaps one of its children, since one of the authors of “The Yellow Jacket” collaborated in the writing of it and has therein introduced the same pearl-embroidered language, although it is quite different. Is this world success of “The Yellow Jacket” an exceptional thing or is it a presage of the success of a number of American plays? We think that the spirit of the American theater of tomorrow may be sufficiently broad, simple, and human to spread throughout the world. Many American characters are already universal because of these qualities—are not Buffalo Bill, Nick Carter, Charlie Chaplin, already dreamed about by children the world over?

But “The Yellow Jacket” is exceptional by reason of a wonderful quality which I consider to be essentially American. The daring, yet at the same time the smoothness of the creation, unifying in itself such widely separated elements of world poetry and even adding new ones, then melting them in one flow of deeds and words, full of music and fancy, belongs to the new continent! This play is already a classic. It will grow with the years. Children at school will learn its fragments by heart, and some of its lines will become lasting proverbs. Above all it is theater, theater, theater!

Let us narrate, briefly, some of the things which pass before us so miraculously and yet with such simplicity. At one moment, the farmer, become executioner by royal mandate,
beheads a traitorous servant. Just as the blade of the huge saber descends upon the neck of the culprit, the property man hides the face of the young woman with a square of red cloth and tosses upon the ground a small red pillow to represent the bloody fallen head, while the supposedly dead servant retires from the scene, quite unnoticed by the audience. The whole attention of each spectator is captivated by the little red pillow. Each comprehends instantly the full dramatic force of the incident. The scene seems almost silly in recounting it—and there are always those few unimaginative spectators who titter at the moment—but those who have seen it with imaginative eyes will remember how moving and how living an action it was.

Later on there is a love scene by moonlight in a boat. The hero and the heroine recline upon four chairs over which there has been spread a simple drapery. Behind them stand the property man's two assistants who imitate the slow sweeping motion of paddling. Another, with bits of sand-paper, makes the tranquil water to ripple softly as the boat swims gently down the shadowy stream. It is childish! Ah, it is just because of that childish quality that it becomes so cheerful and so lovely an illusion. The audience feels only the spell of delicious night on the bosom of a great river. And with what magic is that spell accentuated! The two lovers, themselves a part of the revery into which all are plunged, see, at the same moment, the distant light of another love-boat which advances, passes, and retreats into the distance. Their eyes follow it with a gentle intensity in which every spectator participates with breathless interest, while subdued voices make soft music seem to be wafted across the water from the passing boat. Who that saw will ever forget that boat upon that river?

And finally, when the young hero departs with the philosopher to reconquer the throne of his father, both mount a chariot represented by two great standards upon which wheels are traced in outline. The actors mimic the motions of mounting and the action of departing, and the beating of hoofs, the clash of wheels and the
rattling of the harness are borne across the footlights to the audience with a vividness that no realism can equal. These suggestions of scenes, of which the play is almost a continuous succession, are far more realistic than the elaborate stage mechanisms of today, and the very beautiful Foreword to the play explains that this was indeed the hope that the authors had in mind: "The purpose of the creators of this play is to string on a thread of universal philosophy, love, and laughter, the jade beads of Chinese theatrical convention. Their effort has been to reflect the spirit rather than the substance. While the story of The Yellow Jacket is not taken from any direct source, it is hoped that it may convey an imaginative suggestion of all sources and reflect the childhood of the drama. It might be said in a Chinese way that scenery is as big as your imagination. Primitive people the world over begin to build their drama like the make-believe of children, and the closer they remain to the make-believe of children the more significant and convincing is the growth of their drama."

Someone asked one of the admirers of "The Yellow Jacket" what it resembled, and in replying he did not hesitate to speak of the Greek tragedies, the Mysteries of the Middle Ages, of vaudeville, of Punch and Judy, and of Shakespeare. The Chinese Ambassador at London went to see the play and when one of his English friends inquired of him whether the play truly resembles the Chinese theater, he answered, after a silence: "It is Chinese enough to make me homesick."

Those who believe that the theater ought to have a moral and educational value should encourage the production of plays like "The Yellow Jacket." In this really great work the authors seem to have abandoned themselves to the fantasies and the poetry of life, letting themselves glide hither and thither about the world with eyes indifferent to good and bad alike, painting in charming colors whatever seemed to suit their fancy, and yet, when one returns home after the play and recalls the story woven in word and picture, one is suddenly surprised to discover the moral significance hidden beneath its charm—a significance which grows steadily stronger once the discovery has been made. The young hero, after all, has found only deceit and falsehood among the young courtesans, exquisitely as they presented themselves and adorable as they seemed to his youthful eyes as they revolved with mincing steps upon the little tabourets, pedestalled like the wares they were, or reclined amorously in the love-boat. The temptations of life array themselves before him in simple symbols, and he finishes, through the ardor of his purpose and the strength of his devotion—blessed, it is true, with the tiny slipper as a gage d'amour from his well-beloved and the magic talisman of the little tunic of his babyhood, upon which his mother had written his history in words of her own blood—by triumphing over all his adversaries, overcoming all temptations, conquering all the forces and powers of the wicked who plotted against him. As says the Chorus: "This play deals with mother's love, the love of youth, and the hate of men, which makes them do unhappy things." It is a piece of symbolism in which the flights of the imagination one may bring to bear upon it are as illimitable as the paths of the universe.

Listen to the players speaking:

The Chorus, addressing the audience on behalf of his brothers of the Pear Tree Garden: "Observe well with your eyes and listen well with your ears. Be as one family, exceedingly happy and content. Heaven has no mouth. It makes men speak for it."

The Mother, who has been commanded by her Ancestral Spirit to mount to heaven and send the august Wu Hoo Git, her baby boy, on his world journey alone: "Will I hear his baby cry and not be able to come to him?"

The Ancestral Spirit: "Yes. Yes."

The Heroine, seeing the hero for the first time: "He stands so straight the clouds separate to form a pathway for his brain."

The Philosopher, encouraging Wu Hoo Git upon his journey toward the sun-hued garment: "No man can foresee his battleground." And again: "Every man must look into the garden of his soul alone."

Line after line could be taken out of this play, so rich is it in philosophy and so human is its poetry, but if to those lines one joins the memory of the scenes as they were presented by the players of the Pear Tree Garden—as they were announced by the Chorus—as they were arranged with such stolid indifference by the Property Man, one has found a form of imagery
1912 Wu Hoo Git 1916
Mr. George Relph
Mr. George Gaul

1912 The Property Man 1916
Mr. Arthur Shaw
Mr. Arthur Shaw
not easily to be forgotten. One may also say, in the drama, that the perfection of the rôle determines the perfection of the actor, up to a certain point. Thus it was that Mr. Ladd as The Daffodil in the production at New York City, and the actor who played the Property Man in London, attained an unforgettable perfection. Unsurpassable perhaps would be not too extravagant a word, for both of these men are likely to have their names attached to these rôles for the rest of their days and run the risk of hearing it said: “Ah! but he is not so good as he was in 'The Yellow Jacket.'” I mention these two rôles in no disparagement of the really fine creations which the characters in “The Yellow Jacket” have made possible and which are now so well known to the American public. It is a difficult thing, in a play where all seems new and novel, to avoid undue emphasis, yet the Chorus and the Property Man are here the exceptional novelties. The Chorus is seated upon the stage throughout the performance and rises only when it is necessary to address the audience and indicate the change of scene and the entrance of new characters. The Property Man likewise remains at one corner of the stage, where are stored the few simple accessories required, and all of his work is done in full view of the audience.

Turning from this form of setting where the scene becomes as full as the imagination of him who looks upon it, I recall the most perfect little round theater, seating only two hundred, built of rough timbers, at Pittsburgh, in one of the buildings of the Carnegie Foundation. I recall also that engineers and architects have contrived revolving stages; that others have arranged them in compartments, some with as many as nine or more, giving as many changes of setting. There is still a large field of invention open before these men, but there will be a reaction against realism in stage scenery. The work of Gordon Craig and of others will have a great influence, more indirectly than directly, perhaps. The architect must study, in cooperation with the modern stage-manager—who should be a new type—the important creations of the drama in order to invent the stage scene of tomorrow. The Greek theater found its architectural perfection. The modern theater has scarcely begun to grope for such a thing. One day, in talking with Gordon Craig, he developed the thought of a fixed scene built entirely of marble and bronze, for certain types of plays—and here is a thought for the architect.

To me, who follow the theater, the Journal of the American Institute of Architects is setting an example as unusual as it is fine in thus paying a tribute to another great art. Generally such praise is withheld, for most class publications feel themselves bound to the selfish purpose of advancing the interests of their own professional following—theatrical magazines being quite as bad as the rest. This is a process of dis-integration rather than integration, and has the effect of detaching one art from another instead of relating them. We need great broadening influences everywhere—in the drama as in architecture—as indeed in every manifestation of art. Architects should pause and ponder upon the tremendous possible influence of the drama as a wholesome stimulus to that imaginative quality which they find lacking in so large a degree when they ask for sympathy with their art, a quality without which a nation is dead indeed. A poetic and imaginative work like “The Yellow Jacket” is an incentive for all artists and a window through which all the world may look out upon a broader and fairer comprehension of the meaning of art in all its forms. If “The Yellow Jacket” is a pleasure and lesson for children and youth, it is no less so for those of riper years. Each one finds the nourishment which his spirit craves and in sufficient quantity, while the innocent are not troubled in this lyric spectacle by that which only the older comprehend. There is in it more educational value than in heaps of books.

As for the future of the theater, one may say that it is now in the making. Said Eleonora Duse several years ago: “In order that the theater may be saved, it must be destroyed and all the actors carried off by the plague, for they render the art impossible.” Jacques Copeau is not far from agreeing with her. Next year, New York will see in him the man who is the hope of all the friends of the theater in France, old and young. He is author, director, stage-manager, actor—but before all he is a moralist.

Commenting upon “The Yellow Jacket” it is worth while, perhaps, to cite some of his ideas: “Is there too much rush in the little theaters of New York? More agitation than action? I do
not know. But the spirit of change is there, stronger than in France."

"By tradition, I understand something alive and supple which renews itself ceaselessly."

"We need a new scene for dramatic art. We must start at zero, with other customs and another spirit, in order to attain not a superficial change such as we call naturalism, but a fundamental change."

"The public may like that which is not art, but it may also like art! Actually, the theater is based upon contempt for the public."

"What is lacking is love of the calling—the true professional conscience."

"Praise the modern clown, who is free from the pedantry of the modern actor."

"There is only one great personality on the stage—that of the poet and his work to be served."

"Are not all of these principles in harmony with the atmosphere of "The Yellow Jacket"? Do they not apply broadly to all the problems of restoring those powers of creation and appreciation, the conspicuous absence of which now casts a gloom over the practice of the arts today?"

**Historical Note:** "The Yellow Jacket" was first produced by Harris & Selwyn at the Fulton Theater in New York City, on Monday November 4, 1912, under the direction of Benrimo. The second production was by Mr. and Mrs. Coburn at the Cort Theater in New York City November 9, 1916, removing to the Harris Theater on December 25th, and thence to the Liberty Theater, after which a short spring tour brought the season to a close at the New National Theater in Washington, on May 5, 1917.

The Cast of Characters for both New York productions was as follows, the names of the actors first given being for the first production. The list follows the order of appearance:
THE YELLOW JACKET

Property Man.
Mr. Arthur Shaw.

Mr. Arthur Shaw.

Mr. Arthur Shaw.

Mr. Coburn.

Chorus. Signor Perugini.

Mr. Coburn.

Wu Sin Yin (Great Sound Language). Governor of the Province.

Mr. George Ralph.

Due Jung Fah (Fuchsia Flower), Second wife of Wu Sin Yin.

Miss Grace Valentine.

Miss Beatrice Wood.

Miss Antoinette Walker. Miss Beatrice Prentice.

Tso (Fancy Beauty) Maid to Due Jung Fah.

Miss Antoinette Walker. Miss Beatrice Prentice.

Tai Fah Min (Great Painted Face), Father of Due Jung Fah.

Mr. Reginald Barlow.

Mr. Albert Bruning.

Assistant Property Men.

Mr. Lyman Tobin.

Mr. Charles Harper.

Mr. Thomas Jackson.

Mr. Carlowes Petnode.

Mr. Chamberlain Brown.

Mr. William Fish.

Mr. E. Colebrook.

Mr. E. Colebrook.

Suey Sin Fah (Lily Flower), Wife of Lee Sin and maid of the First Wife, Chee Moo.

Miss Grace A. Barbour.

Miss Mabel Wright.

Lee Sin (The Farmer).

Mr. J. Arthur Young.

Mr. George Farron.

Mr. Charles Harper.

Miss Saxson Morland.

Mrs. Coburn.

Cher Moo (Kind Mother).

Miss Fanny Addison Pitt.

Miss Victory Bateman.

Miss Betty Brewster.

Miss Mabel Vanet.

Ling Won (Spirit).

Mr. Mark Price.

Mr. Henry Buckler.

Mr. E. Colebrook.

Mr. Schuyler Ladd.

Mr. Schuyler Ladd.

Wu Fah Din (Daffodil).

Mr. Reginald Barlow.

Mr. Albert Bruning.

Moy Fah Loy (Plum Blossom), Daughter of Tai Char Shoung.

Miss Juliette Day.

Miss Margaret Carroll.

See Noi (Nurse), In Charge of Plum Blossom.

Miss Fanny Addison Pitt.

Miss Victory Bateman.

Tai Char Shoung (Purveyor of Tea to the Emperor).

Mr. Roy Gordon.

Mr. Henry Buckler.

The Widow Ching.

Miss Margaret Calvert.

Miss Margaret Calvert.

Maid.

Miss Betty Brewster.

Miss Winifred Ridgeley.

Git Hoc Gar. Philosopher and Scholar.

Mr. Mark Price.

Mr. Howard Kyle.

Loy Gong (God of Thunder).

Mr. J. Arthur Young.

Mr. George Farron.

Kom Loh (Spider).

Mr. Walter F. Scott.

Mr. Henry Buckler.

For the first production the scenery was painted by Mr. H. Robert Low; for the second, by Mr. Edward Sundquist.

The costumes were imported.

Moving-Pictures and the Architect

By BEN J. LUBSCHEZ

MOVING-PICTURE dramas naturally fall into one of two classes: where the pictures are taken or the play is performed amidst existing surroundings appropriate to the story; and where the surroundings are set up as they are on the stage. Both may be interesting and instructive architecturally, although this architectural interest is, so to speak, usually only a by-product.

The moving-picture camera being portable, and the resulting film being capable of so widely distributed an exhibition, it is physically and commercially possible to stage a story of the old missions, or of Madrid, or of Colonial times, actually in the courtyard of a California Mission, in Madrid, or in some old Colonial mansion. Such things have been done well and beautifully.

Besides giving an atmosphere of realism to the story, such productions have an interest of which the producers have probably thought little. To the architect, that old mission, those old buildings of Madrid, that old Colonial mansion, peopled, apparently, with folks living the life of which these buildings are the expression, assume the value of vital living things rather than dead precedent to be copied for the client who wants his house in this or that style! He actually sees that architecture is definitely related to the life of its period. The writer confesses that he has often gone to the "movies," not because of much interest in the story to be unfolded but merely in the hope of catching a glimpse of this real meaning of architecture!

The picture with the artificial setting, however, has been interesting mainly on account of its unfilled possibilities. A floor of quite obvious wooden boards with black spots painted on them, is not very convincing as marble pavement; a dome made of muslin with tacks on the seams and ribs, conspicuously apparent, is not very impressive. The moving picture usually leaves little to the imagination. Perfectly obvious scenes are preceded or followed by an explanation. The architectural illusion should therefore be perfect or we would be far better off with such stimuli to the imagination as the "love-b�r9ht" or "heaven" of the "Yellow Jacket"! Perhaps these are better for us anyway than extreme realism, but that is beside the question.

We are shown a great Babylonian hall: the announcement slide says it is one mile long! The memory of that announcement is the only thing that lends any versimilitude to this, the effect of such tremendous size is not apparent in the picture.

The camera tells the truth without mercy, it exaggerates with merciless vengeance, but it is not recalcitrant, and these very qualities often make it a wonderful magician! Properly lighted and photographed, plaster or even thick kalsomine will pass for marble without detection; tinsel, for gold; painted wood or plaster, for bronze. A masterly combination of these two magic agents, light and photography, will produce almost any illusion. The moving picture seems to offer an opportunity to someone who is master of scene painting, lighting, and photography as well as versed in architecture. Perhaps no such versatile individual exists; perhaps the most beautiful results will come from the cooperation of such masters under supervision of an architect. It seems well worth trying.
The New National Sylvan Theater

By COLONEL WILLIAM W. HARTS, U. S. A.
Officer in Charge of Public Buildings and Grounds, Washington, D. C.

LOCATED on public grounds of the United States, within the shadow of the Washington Monument and easy walking distance from the main business and residential sections of the city, the new sylvan theater opened to the public on the night of June 2 adds one more to the popular public recreation features gradually and systematically provided by the War Department in its administration of the park system of the District of Columbia.

The stage, a turf terrace about 5 feet high, is located about 350 feet to the south of the Washington Monument against a background of well-proportioned trees. From the base of the stage to the level of the Washington Monument is about a 7 per cent grade, sufficient for the desired elevation of each tier of seats above the other to enable the occupants to get a good view of the stage and performers.

The preliminary plan shows a seating capacity of 5,000, but at the initial performance only about 2,800 seats were placed.

The Government provided the stage with its foliage setting and will maintain it. The cost was nominal, the most of the expense being incurred for installation of conduits, hauling, and personal services; the planting cost was slight, since surplus stock from other sections of the park system was used. The use of the theater, without charge, will be permitted for any performance or play which has the approval of the Office of Public Buildings and Grounds.

The acoustics were quite satisfactory within the range of the seats, about 170 feet, the lines of the various speakers being plainly heard from every section within that area.

Judging from the interest and enthusiastic acclamation of the audience of about 15,000 on the opening night, who gathered despite the threatening aspect of the weather and in spite of the fact that on the opening scheduled for the preceding evening both actors and spectators were dispersed for the evening by a sudden severe rainstorm which came up at the last moment, the latest venture of an out-door theater for the enjoyment and use of the Washington public has met with general approbation and complete success.
What France is Doing in City Planning in Time of War

AN OBJECT LESSON FOR AMERICA

By GEORGE B. FORD
Member of the American Industrial Commission to France

New Bridge Built in Marseilles During War Time

Despite the fact that France led in city planning during the greater part of the last century, she had been surpassed by many other nations in recent years. One of the good things in France, therefore, directly traceable to the lessons which the war has taught, is the strong city-planning movement aimed at correcting some of the deficiencies in French town planning. This movement is headed by the Institute of City Planning (Institut des Architectes Urbanistes) of which M. Eugène Hénard is president. The Institute was founded in 1915, and the movement centers about the Loi Cornudet recently enacted by the National Assembly. This law provides for thorough-going compulsory city planning throughout the country, and its enforcement will place France in the lead in city planning. The expression of this tendency is shown in the official rebuilding plans for Rheims and other ruined towns, in the condemnation of unsanitary quarters in Limoges and Marseilles, and in the great port and canal work at Marseilles, Bordeaux, Rouen, and Havre.

Various cities are making extensive plans to provide for
future growth and to introduce certain needed improvements. In Paris there is a special bureau of the Department of the Seine devoted to city planning and architecture. This bureau is making comprehensive plans for the future development of Paris and its surroundings, and all matters which affect the plan of Paris pass through this office. Very wisely, provision has been made for an advisory commission of leading architects, engineers, and others, to serve as a check on the work of the Bureau. In a number of cities, as Lyons, Marseilles, Grenoble, Limoges, Bordeaux, etc., the department engineers look far ahead in planning for the growth of their cities.

Perhaps the most interesting of all are the plans which are being made for the reconstruction and extension of the bombarded cities. The recent official plans for Rheims and Claremont-en-Argonne, and the competition plans for Revigny are typical of the foresight that is being shown in remedying the evils in sanitation and promoting the conduct of business and convenient living in the older cities.

Most fortunately the new Loi Cornudet provides that all ruined villages, towns, and cities shall be reconstructed along comprehensive lines by local commissions, controlled by central authorities in the departments and at Paris. The application of the best practice in city planning throughout the devastated region is assured. Prefect Mirman, of the Department of Meurthe-et-Moselle, said that he believed the application of these principles in reconstructing the devastated region would have a remarkable effect on the whole of France, and that it would mean eventually the replanning of the old unsanitary and inconvenient parts of all existing cities and towns.

Remarkable work is being done by various French cities, despite the war, in cleaning out unsanitary areas. In Limoges, for example, about 6 acres of particularly unsanitary quarters, five- and six-story tenements, have been torn down and laid out with new, broad, sunlit streets bordered with new open buildings. In Marseilles, in the very center of the city, 14 acres of old six- and seven-story tenements were appropriated and rebuilt in the same way. At a cost of something like forty million francs, the city is laying out new broad streets and open
WHAT FRANCE IS DOING IN CITY PLANNING IN TIME OF WAR

spaces, erecting new buildings of a modern character, all as a matter of "Preparedness for Peace." It has been impressed on them very strongly that with the loss of a million or more of their best men, they are bound to do everything they can to preserve and build up the next generation; that they cannot afford to let it grow up in unsanitary and disagreeable surroundings.

Excess condemnation exists in principle but not in practice. It is limited to properties or parts of properties within 50 or 60 feet of an improvement. Nevertheless, in the above-mentioned improvements in Limoges and Marseilles, the city expects to recover nearly half of the total cost of the improvements from the sale of the excess property.

In surveying the whole of the city-planning accomplishments of French cities in time of war, the striking fact is that they are doing these things because they find that they have to do them to meet the economic competition with other countries which is coming after the war. There must be no waste, and they are aiming to eliminate every possibility of it. France is doing all these things at enormous cost, despite the superhuman work of carrying on the war. She is doing it because she finds it necessary to make up for the mistakes of unpreparedness.

Memorial to New York's New Water System in Central Park—A Great Sunken Garden

The MacMonnies Fountain

To convert the old Croton reservoir in Central Park, New York City, into a great sunken garden is the scheme proposed by Thomas Hastings of Carrère and Hastings, architects, of New York City, in tentative plans recently submitted by him to the Catskill Aqueduct Celebration Committee, appointed by the Mayor of the city. One of the duties of the Committee was to devise a plan for a permanent memorial of the new water-supply system for which the city has expended $100,000,000. The opening of the new system will force the abandonment of the reservoir, which extends from Seventy-ninth to Eighty-sixth Street. The plan does not disturb the upper reservoir, which extends from Eighty-sixth to Ninety-sixth Street.

At the northern end of the garden, the plans call for the erection of the Frederick MacMonnies fountain of the sea horses drawing Fame and the barge of State. This fountain is known to architects the world over, and was a
feature of the Exposition at Chicago in 1893. At the southern end of the garden, it is proposed to build a garden amphitheater with seating capacity for 20,000 people, descending by turf terraces to a music pavilion. Between the northern and southern features there is to be a lagoon, flanked on the east and west by park spaces girded by stately trees. North of the garden, in the upper reservoir, and on the axis of the lower reservoir, an 80 foot jet will furnish a majestic termination to the vista.

The reservoir covers about 34 acres. The present elevation of its base is 18 feet lower than the general level of the park. It would cost the city much more to fill in this great acreage than to convert it into a sunken garden. The prevailing public sentiment against any radical change in the use of Central Park is responsible for a scheme such as this, embodying the most acceptable features of plans previously advanced for the use of the area and, at the same time, preserving the desired harmony with the original conception of Central Park. An important feature of the new plan is that it is confined to the area of the present reservoir and does not disturb the present arrangement of roads, while, at the same time, it does provide adequate connections with the neighboring road systems, and forms a convenient connection across Central Park between the Metropolitan Museum of Art and the American Museum of Natural History.

The approval of the New York Park Department and the Art Commission is necessary to give sanction to the project. It is proposed to lay the cornerstone of the sunken garden on October 12, in the course of the three-days' celebration which is to mark the completion of the aqueduct system.

Strong opposition to the project has developed and many differing views, both of the opponents and proponents, are being published in the newspapers of New York City. Whatever may be the outcome it is very evident that the development of Central Park is a matter which touches a great many people and which always arouses a keen controversy.
Two Designs for the Facade of St. Peter’s in Rome

By KENNETH JOHN CONANT, American Academy in Rome

Fig. 1. Design by Michelangelo as Modified in Execution

If the façade of St. Peter’s is a profoundly unsatisfactory composition, it is not only because we are out of sympathy with the love of extravagance and display so evident in every line of it, but also because it is the result of a long series of compromises between a number of different schemes, to none of which it does any sort of justice. An immense amount of thought and study was expended on the problem by the various architects from Bramante onward, for it was seen to be one of the greatest difficulty; and to turn over the solutions one after another, as anyone may do in the pages of Letarouilly or Guymüller, is to follow the spirit of the Roman Renaissance from its first tentativeness and uncertainty into its lavish decline. The earlier designs have a multiplicity of features that found the admirers in the period of the Gothic revival; the florid later schemes pleased the critics of their own time, but the soberer and simpler ideas worked out in the period between strike modern taste as the best.

An interesting phase of the finest scheme is presented in the first of the accompanying drawings. It is Michelangelo’s design as modified in execution. The great dome has the outline given it by Vignola, for only the drum was completed at the time of Michelangelo’s death in 1564, and Vignola, though he kept religiously to his predecessor’s design, allowed his caution to influence him to a stabler form. Of the four auxiliary domes, still in the future at Michelangelo’s death, two were built under Vignola. The great portico is the innovation of Michelangelo, and it shows the sweep of his genius. It explains and more than justifies the colossal order, so often criticized, with which he clothed the apses. However open to criticism from a structural point of view this portico may be, with its heavy attic loaded upon lintels which would of necessity have been built as iron-bound flat arches, no one can deny the immense effectiveness of it, or the peculiarly Michelangelesque flavor of a forty-foot band of masonry held up by fourteen towers of stone, each about seven feet in diameter and nearly one hundred feet high. The idea is
worthy of its author, and I think must be admitted to be the most powerful possible solution of the problem. There is only the vaguest authority for the flanking colonnade shown in the drawing, although suggested by the existing one, for the site of the nave and forecourt was in a very chaotic condition during the last half of the sixteenth century. But it can hardly be doubted that the later architects would have provided a fine approach to such a magnificent composition.

With the extension of the nave in 1612, the problem of the façade became a different one, for the dome no longer dominated it. It should have, therefore, some striking independent features, and it is the lack of these that makes the present front so disappointing. Compare it with the project of Bernini, the second drawing, made from the same viewpoint as the other. Whatever may be said of the taste displayed, or the appropriateness of expression, the scheme is certainly a grand one, with a wonderful excitement of design and a fine play of light and shade. The dome, large and important as it is, is completely thrown into the background by the two towers, which hold the spectator’s interest at the plane of the façade. This lordly pair was actually executed in part, but the work done had to be taken down because of a threatening settlement in the foundations. It seems that Bernini failed to examine the substructures properly, but went blindly ahead on foundations prepared for much smaller towers by Maderna, who had brought the work to the parapet level. To this height it was now once more reduced, and remained so for many years, though the sky-line must have seemed very unsatisfactory and much less interesting than it is at present, with the attractive clocks added in 1782. Yet these clocks, compared with the towers they replaced, seem only weak and unsuitable; it cannot be said that they go very far toward making the design compare with the magnificent composition of Michelangelo.
Beaux-Arts Institute of Design

Official Notification of Awards—Judgments of June 5 and June 19, 1917

Class “A,” Sixth Esquisse-Esquisse

Class “B,” Sixth Esquisse-Esquisse (Spiering Prize Competition)

Jury of Award.—F. H. Bosworth, Jr., L. Warren, J. H. Freedlander, H. R. Sedgwick, G. H. Bickley, R. Bolles. This Jury also served as Jury of Award for Class “A” and “B” Archæology, Sixth Projets and Measured Drawings.


Class “A” and “B” Archæology, Sixth Projet


Awards.—Mention, P. A. Tischler, Columbia University; L. C. Licht, University of Pennsylvania.

Eleven (11) Measured Drawings were submitted in this competition on which the following awards were made:


Class “B,” Sixth Analytique


Program.—A Memorial Column. Drawings submitted, 38.


Class “B,” Sixth Projet


Awards.—First Mention Placed, F. A. Elsasser and J. Regan, Atelier Wynkoop, New York City; First Mention, P. Friedman and A. E. Anderson, Carnegie Institute of Technology.
**Class A and B.**—Archæology.—VI. Measured Drawing. Third Medal, L. C. Licht

**Class B.**—VI. Analytique.—A Memorial Column
First Mentioned Placed, J. Ungar

**Class B.**—VI. Projet.—An Outdoor Restaurant
First Mentioned Placed, F. A. Elsasser
Nation Planning
AN ANALYSIS OF M. LOUIS VAN DER SWAELMEN'S
"PRELIMAIRES D'ART CIVIQUE"

By NILS HAMMARSTRAND

IT IS, indeed, a task involving the greatest responsibility that the rebuilders of the devastated countries will have to accomplish when the war is over. The success of their work will largely and quite especially depend on their ability to organize and to realize an indispensable work of preparative character, the scope and magnitude of which are not easily to be fully grasped by the distant onlooker. There is scarcely one of the most vital, the most urgent problems of contemporary architecture—taking the word in its widest sense—that these restorers, or rather renewers, will not have to encounter and to wrestle with. If it were not for its background of irretrievable losses and affecting human tragedy, I should unhesitatingly call their task not only fascinating, but enviable.

Fortunately, there are various evidences that the importance of the problems presenting themselves in this connection have been duly estimated. Thus, out of the disaster there has grown a considerable "war literature" of the most sympathetic kind, dealing with these subjects, which proves how conscientiously superior minds in the respective countries are weighing the obligations of the reconstructive work. One of the most remarkable among these publications is M. L. van der Swaelmen's book, "Prelimaires d'art civique mis en relation avec le cas clinique de la Belgique."

There is in its title a promise of a more universal bearing than an expose of locally or nationally limited questions would give. The aroused expectations are not baffled. Broadly viewed the book has two main divisions, the one of which may be characterized as an analytic exposition of the various aspects of civic development, of its manifold objects and aims, the respective desiderata being summed up in condensed synthetic conclusions, while the other part of the book, outlining as it does a scheme for organized establishment and methodical pursuit of constructive civic work, gives a basis efficiently dealing with and solving the pertinent, practical problems.

Such a publication, even if its teachings and principles were only or almost exclusively applicable within a nationally or geographically limited sphere, could always claim our interest and attention. Much more so when, as in this instance, the author has treated his subject not only in an amplified and diversified manner corresponding to the widespread, ruinous consequences of the war's events, but also has wished to give and has succeeded in giving to his suggestions and statements such a turn and shape that they largely may have an international, or even universal, significance and applicability. The tendency in this field, as in almost every other field of creative activity, will increasingly follow the direction of established international coöperation. This recognition is, certainly, sufficiently old and too well acknowledged to be in any way startling. It may rather, at first sight, seem startling from the fact that the world-dividing war itself has become a forceful promoter of this tendency. The foundation of an international organization for civic development already was laid before the war, through the establishment of "l'Union internationale des villes" with its seat in Brussels. It was formed at the first meeting of the "Congrès périodique international des villes," in Ghent, July, 1913. The national tools designed to carry out the work of this international organization were subcommittees to be formed in the different countries, and the urgency of conditions brought about through the war has, for Belgium's part, caused the formation of, foremost, two such executive suborganizations: "The Belgium Town-Planning Committee—London" and the "Comité Neerlando-Belge d'art civique—La Haye, Amsterdam." To M. van der Swaelmen himself one of the founders of the last mentioned institution—the great question of post-bellum reconstruction has given an impulse to outline a more detailed scheme for a ramified structure to serve permanent international civic work and, as well, to suggest the frame of an "organiza-
tion nationale perfectionnée," comprising "organismes officiels" and "associations privées." His suggestions respecting the official organs of such a national instrument, which might serve as a model to be imitated in other countries, are not confined to merely general indications, but elaborately specify its different members, each meant to deal with the pertinent questions from some special point of view, such as sanitation, alignment, communication, archeology, protection of sites and monuments, protection of nature, and all to be represented in a central commission acting as a superior administrative body.

As a definite step toward the realization of such a national organization in Belgium one may perhaps consider a law enacted by the Belgian government at Le Havre, in September, 1915, providing the obligatory submission of projects of reconstruction to a special committee for examination. M. van der Swaelmen pleads for systematization and extension of this principle to embrace all communities of the kingdom—in accordance with the general tendency of his programme and with a resolution of the conference in London for the reconstruction of Belgium, in February, 1915—and, moreover, he emphasizes, as a most urgent measure, the obligatory establishment of a special "Bureau d'inspection de l'état de développement civique," in all cities and communities or agglomerations of communities in the country. These local institutions—to be formed in imitation of the first English "Civic Development Survey," founded in London by H. V. Lanchester—would have as their object to gather, classify, coordinate, analyze and present all the facts and matters relating to the state of civic development of the respective localities, including records, statistics, maps, plans, and graphic documents of all sorts, to be presented, as much as possible, in the graphic form of plans and diagrams, illustrating the statistics, and to be accompanied by explicative memoranda. For the benefit of the national, as well as the international, cooperation within this field it is, naturally, indispensable to organize such institutions as uniformly as possible and, still more urgent, to systematize their work according to strictly concordant methods.

While such institutions would be apt to facilitate and secure the task of the planner, they could, on the other hand—and this is a point on which the author strongly insists—be turned into tools for public instruction and information by arranging their gathered material in the form of a permanent exposition open to the public—one of the means the author suggests for the diffusion of knowledge about these things with a view to stimulating public spirit and ambition. For it ought always to be remembered that it is on the character and quality of this public spirit that the success of civic development will depend in the long run. Great individual scattered results may be attained without its help, but never that desirable level of general civic prosperity where the successful development of cities is pursued with pride by the society as a whole, where "a narrow individualism has been superseded by an elevated ideal of life in common."

The importance of such information—as important as any other form of social education—has been widely recognized, but its propagation, in the interest of public welfare, is on the other hand almost everywhere badly neglected. What has been done in this direction is, on the whole, confined to sporadic and comparatively inefficient achievements of private initiative. In the initiative of the governing authorities of the state, as well as of the communities, such private performances have their necessary future complement.

The necessity of this activity especially imposes itself in countries where the legal regulation of civic progress and improvement is still undeveloped, of comparatively recent date or limited to local centers, thus lacking the range and effectiveness of public law. This seems to be the case in Belgium. M. van der Swaelmen proposes concerning public control a "double legislation," one of the state in regard to the communities on the planning, organization and building of cities and on the protection of nature—"for," the author says, "he who is penetrated by the spirit of the civic problem knows that the urban, the rural and the regional problems are not to be separated." The communities, in their turn, ought to have legislative power in regard to the individuals, enforcing the application of the recognized sanitary, technical, or esthetic principles through regulating ordinances. An especially momentous injunction of the general law would, as already
NATION PLANNING

hinted, make the plans for systematic extension and improvement obligatory in all communities, cities, and villages of the kingdom, and, moreover, secure the periodic revision of these plans every ten years for the villages, every five years for small and middle-sized cities, and every three years for large cities.

Such legislation—as regards urban development already instituted in its twofold form in some countries, for instance in Sweden and Germany—more than most laws, needs to be kept à jour, to be constantly modified and amended. The importance of national "civic development surveys" and of international coöperative civic work as a means to the attainment of this versatility can hardly be exaggerated. It will be one of the most momentous services to furnish that knowledge of empirical facts regarding civic conditions and civic necessities which alone can safely guide the legislation when formulating the directing conclusions of the law. We have already exposed some of the fundamental desiderata expressed by M. van der Swaelmen respecting the future organization of Belgian civic development survey—in the main concordant with the ideas of H. V. Lanchester. In a following article we shall deal with the author’s suggestions concerning the immediate intervention in the “cas clinique” of Belgium, as well as with his expositions regarding the international research intended to serve this reconstructive work and to be developed into a permanent institution.

Resolutions on the Death of Dr. Jesse Benedict Carter

DIRECTOR, AMERICAN ACADEMY IN ROME, 1912-1917
DIED IN BOLOGNA, ITALY, JULY 20, 1917

At a special meeting held July 31, 1917, the Trustees of the American Academy in Rome, on motion of Dean West, Chairman of the Committee on the School of Classical Studies, seconded by Mr. Breck Trowbridge, Chairman of the Committee on the School of Fine Arts, adopted the following minute regarding the death of Director Carter:

"Jesse Benedict Carter was born in New York on June 16, 1872. He was of Scotch descent, the son of Peter Carter, the publisher, and of Mary Louise (Benedict) Carter, and a nephew of Robert Carter. His boyhood was happily nurtured in a home where books and studies were a natural part of the daily life. In 1889 his schooldays ended, and he entered New York University. The next year he entered Princeton and was graduated in 1893 at the head of his class. His brilliancy and range of power were evident from the start. He was first in every study he touched, whether ancient literature, physical science, philosophy, or history. His assiduous reading soon carried him far beyond the bounds of classroom tasks, widening the horizon of his regular studies, and opening vistas into other regions, especially modern letters and fine arts. It is conceded that in the last generation Princeton has graduated no one more highly gifted nor better trained in the studies of classical antiquity, and no one who combined with this special equipment a broader sweep of intellectual sympathy and vision. For four years after graduation he studied in classics and other fields at the Universities of Leipzig, Berlin, and Goettingen. He was still roving and ranging, and yet slowly settling to his special work. The next three years he was instructor in Latin at Princeton. The effect of his vivid teaching on the students was instantaneous, quickening, and even thrilling. The next year was spent at the University of Halle, from which he received the degree of Doctor of Philosophy. He then returned to Princeton as Assistant Professor and took a leading part in organizing the Classical Seminary established by his friend, Mr. George A. Armour. In 1902 he married Miss Kate Benedict Freeman. His devoted wife survives him. The same year he became Professor of Latin, holding this post until 1904, when he went to Rome as Professor in the American School of Classical Studies. In 1907 he was chosen Director of the School and was retained in this position on the consolidation of the School with the American Academy in Rome in 1911. The warm admiration shown for his executive skill by the late Mr. J. Pierpont Morgan went far to ensure the success of the consolidation.

"On the death of Mr. Frank D. Millet in 1912 he was elected Director of the Academy. The five years which followed were years of incessant and, at times, distracting labors, until at last the Academy with its two constituent schools was settled in residence on the Janiculum and well started on its new career. Deserved recognition quickly followed his work, as evidenced by the degree of Doctor of Letters conferred by Princeton, the invitation to deliver the Lowell Lectures in Boston, the lectures he gave in France on request of the Minister of Public Instruction, and the final honor of Commander of the Crown of Italy, bestowed last year by the King.

"To his regular duties he added an active coöperation of the Academy in measures of Italian war relief. In June of this year he went north to Paris, returning to Bologna to help in the ambulance work, and died there of sunstroke on July 20. He was buried July 25 in the Protestant Cemetery in Rome.

"His work has been of fundamental value. His gifts and training and, above all, his enthusiasm for the unity of Arts and Letters made him the best man to succeed
Frank Millet and put the new plan into operation, for he was through and through a humanist. Substitute the greater word Art for Sculpture, and the saying of Pomponius Gauricus (De Sculptura I) would be his watchword: 'I agree with you that Sculpture cannot exist without Letters, nor even Letters without Sculpture.' It was Art to quicken classical studies into brighter reality, and classical studies to illumine Art with the light of History.

"For all this Rome herself was in his eyes the main source of power. The Eternal City was to him a fountain flowing with living waters—quickening memories, self-renewing and priceless for both Art and Letters, ancient and modern. To blend these into one powerful impulse was his one aim. It is little wonder the students answered his call and that their daily fellowship is the sure pledge that his work, though unfinished, has been well begun.

"Such faults as he had were not unlike his virtues. His exuberant vitality and brilliancy, the source of his strength, at times appeared in mannerisms which might easily be misunderstood. They were of a sort which endeared him to the Italians and added to his influence. It is doubtful whether anyone less impressionable and sympathetic could have performed his difficult task so well.

"We lose him in the critical time of the great war. He was just coming into the fulness of his vigor. He was needed to guard and guide the new work. We had the best years of his life. No one can forget him—bright, alert, buoyant, friendly, flashing with life. His writings on Roman religion are secure in the esteem of scholars. His memory as an awakening teacher will last as long as his students survive. His administrative energy appears throughout our records. He lived to see the new plan well established; and for his loving labors he deserves remembrance as the chief intellectual builder of the new Academy."

**Book Reviews**

**Michelangelo.** By Romain Rolland. Published by Duf- field & Company. $2.50.

Romain Rolland is one of France's most distinguished writers, so that one opens with an expectancy of pleasure this life of Michelangelo. The world of letters has acclaimed the talents of Romain Rolland and acknowledged his surpassing mastery of the mysteries and realities of life. His is no genius of narrow bent, ever reproducing in the same field an initial success, but a genius comprehensive, embracing in its limits knowledge of man and all his activities, aspirations, and accomplishments. "Jean Christophe," his most famous work, is a monumental creation of amazing merit.

To Rolland, as to the average cultivated Frenchman, the world of art, of esthetics in its broadest aspect, is not an unknown, fenced-off phase of human endeavor wherein man has been eccentric or impractical. To him it is as an open book, the rarest flowering of human intellect and emotions; it is the justification and glorification of life, where the pleasures of man are tinged with divinity. Far from being exotic to man, this world of art is his natural environment in which there is freedom and joy.

Thus sympathetic with art, Romain Rolland is able in this book of all too few pages to sketch the chief incidents of Michelangelo's life, so that the reader has an overwhelming impression of Michelangelo as a living person. No longer a historical character, blurred with the mist of the past, he is flesh and blood, struggling with difficulties, beset by jealousies, accomplishing marvels, dreaming impossibilities, overturning the world of art. Painter, sculptor, military engineer, architect, writer of sonnets, but above all and preeminently painter, he like a cyclone swept clear the artistic world and implanted on it the stamp of his unattainable genius. Never before nor since has man so successfully pictured the power or the rush of motion. The "Creation of the Sun and Moon" from the Sistine Chapel is a unique stupendous miracle of art.

The book is well illustrated and has a chronological list of all the work of Michelangelo and at the end a bibliography. It has high literary merit and deserves a place in every library.

The following quotations illustrate the author's literary style and clarity of artistic judgment: "The heroes of art are also its tyrants, their glory kills, and the greater they are the more they are to be feared, for they impose on all men the laws of personality, which can exist but once. They are a devouring force; they illumine, but they burn." And again: "It would be absurd to offer Michelangelo as a model to young artists. Should great men ever be taken as models in art? Is not that one of the errors of classical training? They are examples of energy, sources of force and beauty. It is well to look for a moment on their radiance, then tear ourselves from their contemplation and work." —W. D. B.

**Preliminaires D'Art Civique.** By Louis van der Swaelmen. 300 pp., frontispiece, and nine diagrams. A. W. Sijthoff's Uitgevers-Maatschappij, Leiden, Holland. Brentano's, New York City. $2 net.

A careful analysis of the book and its message will be found in this number of the Journal in Mr. Hammarstrand's article, "Nation Planning."


Walpole, a little rural industrial town in the eastern section of Massachusetts, has won for itself considerable distinction for its enterprise in town planning. Charles S. Bird, Jr., author of "Town Planning for Small Communities," is chairman of the local Town Planning Committee, and also of the Massachusetts Federation of Planning Boards. Mr. Bird has devoted himself energetically to the work of preparing and developing a town plan for
BOOK REVIEWS

Walpole. The experience and enthusiasm derived from this work accounts for the thorough and interesting way in which he has handled matters covered in this volume.

The book emphasizes the economy of town planning, and the conclusions drawn are supported by facts and figures. Suggestions are made on methods for putting a town plan into effect, both from the legal and propagandist standpoint. Successive chapters are devoted to the functions and various details of the street, park, and recreation systems. The importance of organization and the value of genuine cooperation in carrying out all plans are fully discussed. All the correlated agricultural and industrial factors affecting the planning of the small community are considered.

Those elements of the town plan under private control, particularly housing, and the problems of city administration conclude the discussion of the theory of town planning.

The second part of the volume presents the experience of the Walpole Town Planning Committee and describes the concrete accomplishments of the Committee.

The book is illustrated with valuable and pertinent photographs, diagrams, plans, and charts.

The New Registration Law in Wisconsin

The recently enacted law of the state of Wisconsin regulating the practice of architecture has several features which should be carefully considered, and it is well to consider them without a technical review of the act.

The law prohibits any person from using the term "architect" subsequent to January 1, 1918, unless he has a certificate of competency from the Board of Examiners. The issuing of such a certificate to those already in practice is optional with the Board, and should be, but a denial by the Board deprives a person of the right which he now lawfully possesses; this seems to be retroactive legislation which upon judicial review would probably fall; it invites attack. There is no question as to the legality of the requirement of a certificate of competency subsequent to the passage of the act for those then seeking to enter the practice of the profession, and an act requiring all architects in practice prior to the enactment of the law to be registered, whether competent or not, would make the law a farce; but the Wisconsin law apparently seeks to go back in its operation to undo an existing evil.

The law does not establish a standard of academic education but leaves that standard to the Board of Examiners. While this may be well, if many more states adopt this method it will require an active mind to find out what the minimum requirements are in the various states for interstate reciprocal registration. It will at once be seen that such Boards may change their standards overnight, in fact, the possibilities are fascinating.

The law recognizes the college courses in architecture and does well to reserve to the Board the right to review the character of the practice of the applicant subsequent to graduation.

The law provides that any person actually engaged in practice prior to the passage of the act may be registered if approved by the Board. This seems to cover architects without as well as within the state, but when the law goes into effect the architect in practice in a state having no standard of academic or technical education is in rather an embarrassing position if he seeks to practise in Wisconsin. He certainly would be required to brush up in his schoolday subjects.

The law provides that the registered architect shall file his certificate with the county clerk. As this leaves him without any to exhibit to a possible client, it would seem well if the certificate could be issued in duplicate or simply registered.

The provisions of the law creating the Board of Examiners are so good that a competent Board is assured, and the law will be perfected by competent men who have had the advantage of the experience which comes with the duty of enforcement.

WM. P. BANNISTER, Chairman, Committee on Registration Laws.

News Notes

Proposed Illinois Housing Code

Public hearings on the proposed housing code for incorporated cities of the state of Illinois were held recently at Chicago. The proposed code contains provisions covering light, ventilation, sanitation, fire protection, and the like, and is based upon recent housing legislation enacted in other states. Private residences and two-family houses are exempt from the scope of the bill, which applies only to buildings occupied by three or more families. At the public hearings the chief difference of opinion concerned the advisability of including Chicago under the proposed law along with the other cities of Illinois. It was pointed out that Chicago conditions and problems are so different from those of the other cities that legislation of this sort befitting the great city would not fit the small city. Yet it was urged, on the other hand, that the omission of Chicago from the operation of the bill might be challenged as an exemption violating the principle of uniformity in legislation. Efforts are being made to redraft the bill so that it will be satisfactory for Chicago as well as for the smaller cities.
So great is the present interest in the constructional activities of the United States Government that we are interrupting the sequential presentation of information in this department in order to give some account of the organization of those branches of the three departments of the United States Government—War, Navy, and Treasury—which have to do with structural matters. With the information already given concerning the Bureau of Standards (Department of Commerce), Bureau of Mines and Geological Survey (Department of the Interior), this completes the account of governmental activities with respect to major structural matters.

INDEX TO SUBJECTS TREATED IN THIS ISSUE

(For index of materials previously treated, see the General Index, page 414)

8A Bureau of Yards and Docks: Department of the Navy
8B Office of Supervising Architect: Treasury Department
8C Bibliography: The United States Public Works
8D The Convention of the American Society for Testing Materials

8A Bureau of Yards and Docks: Department of the Navy

Established in 1842


Publications:
Bulletin "Public Works of the Navy," issued quarterly, January 1, April 1, July 1, and October 1; H. D. Rouzer, Engineering Secretary to Chief of Bureau, acting editor.

Information published in the Bulletin appears under the following heads: Administrative, Professional, and Engineering Notes.

Under the heading, Administrative, are published from time to time explanations of the manner in which the Bureau desires its work carried on, information relating to new contracts, reports of progress of work and work completed, reports of expenditures and analyses of expenditures, and matters relating directly to the administrative policy of the Bureau.

Under the heading, Professional, is published matter of professional interest to officers of the Corps of Civil Engineers, U. S. Navy, and includes proposed new methods of design; special cases of successful construction along new lines, as well as cases which may have proved unsuccessful; results of tests upon various manufactured articles which may be offered for use in public works; cost data on the various works constructed under the cognizance of the Bureau. Articles descriptive of engineering projects of major importance prepared by members of the Corps appear under this heading.

Under the heading, Engineering Notes, is printed such matter as bibliographies, abstracts of published articles, etc., which it is considered will be of value as reference. Brief articles descriptive of engineering projects of somewhat minor importance are also published under this heading.

Bulletins are not for public distribution; however, it has been the custom to forward copies to parties on request, until the supply is exhausted.

Administration:

The duties of the Bureau of Yards and Docks comprise all that relates to the design and construction of public works of the Navy, such as dry-docks, marine railways, building ways, harbor works, quarry walls, piers, wharves, slips, dredging, landings, floating and stationary cranes, power plants, central heating plants, coal ing plants, fuel-oil plants, heating, lighting, telephone, water, sewer and railroad systems, roads, walls and grounds, bridges, radio towers, hospitals, and all buildings for whatever purpose needed under the Navy and Marine Corps. It has charge of all means of transportation, such as derricks, shears, locomotives, locomotive cranes, cars, motor trucks, and all vehicles, horses, teams, subsistence and necessary operators and teamsters, in the various navy yards.

The work of the Bureau is carried out under the direction of the Chief of the Bureau, assisted by the officers of the Corps of Civil Engineers, U. S. Navy. Six officers are detailed for duty at the Bureau, the remaining number being stationed at the various navy yards and naval stations and supervise the work in their respective localities.

Organisation:

The Chief of the Bureau is in general charge of all work under the cognizance of the Bureau. In his absence the Assistant Chief of the Bureau is in charge.

The work of the Bureau is classified under the following main divisions, each under the direct supervision of a commissioned officer or the Chief Clerk:

(a) Assistant Chief of Bureau.
(b) Division of Mechanical, Electrical, and Routine Design:
   (c) Division of Special Design and Projects.
   (d) Construction Division.
   (e) Maintenance and Operating Division.
   (f) Clerical and Office Management Division.
   (g) Assistant Chief of Bureau: This officer is the special representative of the Chief of the Bureau and Acting Chief in his absence. He has the general supervision of all correspondence, Bureau organization and office methods, annual estimates, and coordination of Bureau work.

(b) Division of Mechanical, Electrical, and Routine Design: This Division operates through three subdivisions—(1) General Drafting, (2) Mechanical and Electrical, and (3) Architectural.

The following are the more important duties of this Division: Origin and development of design of altera-
8B Office of Supervising Architect:  
(Prepared for The Journal by James A. Wetmore, Acting Supervising Architect)

**Publications:**  
The office does not publish a bulletin. Advertisements soliciting proposals are published in a number of technical papers and in local newspapers. A number of papers make a specialty of reporting awards of contracts. The Society of Constructors of Federal Buildings, consisting of the members of the field force, issues a monthly journal which, although not an official publication, gives much information regarding the activities of the office.

**Administration:**  
The activities of the Office cover all that relates to the design, construction, and maintenance of public buildings in all parts of the country, such as post offices, courthouses, custom houses, appraisers' stores, power houses, departmental office buildings, wharves, marine hospitals and quarantine stations, in fact, practically all buildings for civic purposes.

With the exception of departmental office buildings, it furnishes the buildings, keeps them in repair, and directs the force required for their maintenance.

It furnishes estimates for new projects for the information of Congress and conducts an extensive correspondence in relation to the buildings under contract and completed and in relation to new materials and methods of construction.

The Office does not buy any material direct but contracts for the construction of buildings and supervises the work of the contractors through the agencies of superintendents of construction and inspectors. After completion buildings are placed in charge of custodians.

Exclusive of marine hospitals, quarantine stations, and buildings which have been transferred to other Departments, there were under the control of the Office on July 1, 1917, 1,072 completed buildings, of which approximately one-third have been extended, some more than once.

**Organization:**  
(a) The Supervising Architect directs all activities of the Office with the assistance of the Executive Officer in charge of the administrative divisions and the Technical Officer in charge of the technical divisions; both officers are authorized to sign a certain class of mail. In the absence of the Supervising Architect, these two officers in the sequence given become acting head of the Office.

(b) The Technical Officer directs the following divisions, each in charge of a superintendent of division:

1. Drafting.
2. Structural.
3. Mechanical Engineering.

(c) The Executive Officer directs the following divisions, each in charge of a superintendent of division:

1. Maintenance.
2. Files and Records.
3. Accounts.
4. Repairs.
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As this is division by subject and not by territory, the cooperation of the eight divisions is required in connection with every building.

(d) Board of Award: All expenditures are passed by the Board of Award, which sits daily and consists of four members, the Supervising Architect, Executive Officer, Technical Officer, and Superintendent of the Drafting Division.

Recommendations to the Board for expenditures are made by the Supervising Architect, Assistant Superintendent, and Members of the Drafting, Structural, Mechanical Engineering, Computing, and Repairs Divisions. The letters authorizing expenditures are written by the Computing and Maintenance Divisions.

(e) Technical Board, consisting of the Supervising Architect (ex officio), Technical Officer and Superintendents of the Drafting, Structural, Mechanical Engineering, Computing, and Repairs Divisions.

The principal duties of the Board are to consider technical processes, pass on important questions relating to materials and methods of construction, and to secure cooperation between the different technical divisions. This Board convenes only when called by the chairman.

(f) Construction Field Force, comprises 105 superintendents of construction, transferred from point to point as their services are required. As there are constantly from 135 to 140 buildings under construction, some of the superintendents have charge of more than one building.

The traveling inspection force consists of five Supervising Superintendents and seven Mechanical Inspectors. The Supervising Superintendents and Inspectors are stationed in large cities and each covers the inspection work of a certain territory.

(g) Custodian Force: Each completed building is in charge of a custodian, who is a Government official and serves without compensation. The force of janitors, firemen, laborers, etc., varies greatly with the size of buildings. Four traveling inspectors report on the efficiency of the custodian force and the maintenance of the buildings.

Duties and normal strength of the different divisions:

1. Drafting Division:

Superintendent, Assistant Superintendent, 1 Principal Draftsman, 4 Foreman Draftsmen, 43 Architectural Draftsmen, 3 clerks, and 1 messenger.

Duties: Designs for the approval of the Cabinet Board; architectural working drawings; approval of architectural samples and models; recommendations for mural decorations, and decorative painting; constructing architectural drawings; checking architectural shop drawings; memorandum as basis for correspondence; custody and maintenance of library; and preservation of files of drawings.

2. Structural Division:

Superintendent, Assistant Superintendent, 18 engineers, 1 clerk, and 1 messenger.

Duties: Structural drawings; checking structural shop drawings; approval of mill inspection reports; construing structural drawings; memorandum as basis for correspondence; and preservation of files of active structural drawings.

3. Mechanical Engineering Division:

Superintendent, Assistant Superintendent, 18 engineers, 3 clerks, and 1 messenger.

Duties: Mechanical engineering drawings and specifications for new and completed buildings; technical advice to Maintenance Division regarding expenditures in occupied buildings and engineering supplies and personnel; approval of mechanical engineering samples and selection of mechanical engineering appliances; construing mechanical equipment from 125 to 140 buildings under construction; checking mechanical engineering shop drawings; memorandum as basis of correspondence; preservation of active mechanical engineering drawings and specifications; and recommendations to the Board of Award.

8C Bibliography

In connection with the structural activities of the Government, the book by Col. W. M. Black, of the Corps of Engineers of the U. S. Army, Serial No. 8, and member of the American Society of Civil Engineers, entitled "The United States Public Works" will be found instructive. It contains a

4. Computing Division:

Superintendent, 16 computers and estimators, 23 clerks, 5 skilled laborers.

In the Photograph and Duplicating Galleries, there are employed: 1 photographer, 1 foreman, 2 chemists, 4 skilled laborers, and 1 messenger boy.

Duties: Estimating for new buildings and extensions; reports on contemplated public buildings; writing of specifications; construing specifications; preparation of annual construction estimates; miscellaneous technical correspondence; recommendations to the Board of Award; authorization of expenditures from special appropriations; approval of structural samples; direction of movements of superintendents and inspectors; examination of inspectors of furniture and maintenance and site agents; management of all work on new buildings and extensions; sale of mechanical engineering appliances; memoranda as basis of correspondence; preservation of files of active specifications; files of advertising; files of bills; list of awards; charge of contractors' rooms; and construction cost keeping.

5. Maintenance Division:

Superintendent, 24 clerks, 1 electrical engineer, 1 foreman, safe and lock shop, 1 messenger, 4 Inspectors of Maintenance, 1 Furniture Inspector, 1 Inspector of Vaults and Safes.

Duties: Authorization of janitors' miscellaneous supplies (fuel, paint, electric current, gas, washing-towels, removing ashes, rubbish and snow, cutting grass, etc.); purchase of oil and lamps; purchase of coal.

Direction of operation of janitors, firemen, laborers, etc.; varies greatly with the size of buildings. Four traveling inspectors report on the efficiency of the custodian force and the maintenance of the buildings.

6. Files and Record Division:

Chief, Assistant Chief, 20 clerks, 2 skilled laborers, and 3 messengers.

Duties: Law Section.

Legal work generally; titles and titles surveys; contracts and bonds; leases, licenses, and other instruments; correspondence and detail work in connection with dates and movements of site agents; authorizations from appropriation for "Lands and Other Property of the United States, correspondence relative to claims; settlement of all contracts; responding to calls from Court of Claims; and legal correspondence.

Duties: File Section.

All general files and records; incoming and outgoing mail; mailing specifications and drawings to various departments; in charge of contractors' rooms; issuing flags, towels, sponges, etc.

Duties: Charge of storerooms; issuing flags, towels, sponges, etc.

Charge of supply-room; purchase and distribution of office supplies; office printing, multigraphing, etc.

Correspondence relating to all of the above; Recommendations to the Board of Award from appropriations for operating supplies, furnishing and repairs to same of public buildings, and general expense of public buildings.

7. Accounts Division:

Superintendent, 19 clerks and accountants, 1 messenger.

Duties: Law Section.

Legal work generally; titles and titles surveys; contracts and bonds; leases, licenses, and other instruments; correspondence and detail work in connection with dates and movements of site agents; authorizations from appropriation for "Lands and Other Property of the United States, correspondence relative to claims; settlement of all contracts; responding to calls from Court of Claims; and legal correspondence.

Duties: File Section.

All general files and records; incoming and outgoing mail; mailing specifications and drawings to various departments; in charge of contractors' rooms; issuing flags, towels, sponges, etc.

Duties: Charge of storerooms; issuing flags, towels, sponges, etc.

Charge of supply-room; purchase and distribution of office supplies; office printing, multigraphing, etc.

Correspondence relating to all of the above; Recommendations to the Board of Award from appropriations for operating supplies, furnishing and repairs to same of public buildings, and general expense of public buildings.

8. Repairs Division:

Superintendent, 4 draftsmen, 2 clerks, and 1 messenger.

Duties: Drawings, specifications, and estimates for repairs to completed buildings; technical advice; assistance and recommendations to the Maintenance Division; files of active drawings and specifications; approval of samples for repair work; and recommendations to the Board of Award.
To the Editor of the Journal:

Dear Sir: I enclose the following notice relating to the recent annual meeting of the American Society for Testing Materials and embodying those matters which I deem of especial importance and interest to the architectural profession.

Yours very truly,

THOMAS NOLAN

Chairman Committee on Materials and Methods.

The Chairman of the Institute's Committee on Materials and Methods attended the twentieth annual meeting of the American Society for Testing Materials in Atlantic City, N. J., June 26-29, inclusive. There were 549 members in attendance. The Chairman attended all of the sessions of the four days and took part in the discussion of several of the reports and papers, especially in those relating to cement, reinforced concrete, and hollow building tile.

The American Institute of Architects as a body is a member of this Society, and the Chairman of the Committee on Materials and Methods has been, and is at present, the official representative of the Institute in that Society. That Society has made the Chairman of the Institute's Committee on Materials and Methods a member of its Committee C-1 on Cement and also of Subcommittee IX of that Committee C-1. Two other members of the Institute are members of Committee D-7 on Timber. Subcommittee IX on General Clauses and Publication has charge of the editing for publication this year of the Report of the Joint Conference which formulated the present Standard Specifications for Portland Cement.

Your Chairman has attended important meetings of Committee C-1 on Cement held in Philadelphia and in New York City and hopes to attend the next meeting of that Committee, to be held next October in Allentown, Pa. Of the sixty-three reports and papers presented, the following were of special interest to the architectural profession:

6. Distribution of Pressure through Earth Fills.
7. Annual Address by the President.
9. Inspection of Brass and Bronze.
15. The Economical Proportions for Portland-Cement Mortars and Concrete.
16. Tests of Concrete Slabs to Determine the Effect of Removing Excess Water Used in Mixing.
20. Effects of Grading of Sands and Consistency of Mix Upon the Strength of Plain and Reinforced Concrete.

At a meeting of Committee C-1 on Cement your Chairman fully explained the forty members present the work and purposes of our Committee on Materials and Methods of the Institute, its desire to cooperate with the American Society for Testing Materials and other similar organizations, and also explained the Institute Committee's cooperation with the Structural Service Department of the Journal of the Institute. Your Chairman also explained to the members of this Committee the request made to all of our Chapter subcommittees to urge the Chapters of the Institute to consider the adoption of the A.S.T.M. Standard Specifications for Portland Cement and for Structural Steel for Buildings, and he stated that this was being done, some of our Chapters and one state association having already taken such action.

During the latter meetings of the Convention, Mr. D. Knickerbocker Boyd, the Associate Editor of the Structural Service Department of the Journal of the Institute, was in attendance and aided materially by offering valuable suggestions and taking part in discussions.

During the Convention your Chairman discussed informally with Mr. A. A. Stevenson, the retiring President of the American Society for Testing Materials, the advisability of some formal and official recognition on the part of that Society of the increasingly successful efforts of the Institute Committee on Materials and Methods and the Structural Service Department of the Journal to secure recognition and approval, and to adopt in practice the Standard Specifications of the American Society for Testing Materials. At the next annual meeting of that Society such action will probably be taken.

Your Chairman would urge, also, and will so recommend in the final report of this Committee, that at the next annual convention of the Institute formal action be taken affirming the A.S.T.M. Standard Specifications for Portland Cement and for Structural Steel for Buildings when these materials are to be used in architectural construction. (For Information concerning these two standards see the Journal for January, 1917.)

THOMAS NOLAN, Chairman
Committee on Materials and Methods

Editor's Note.—It is of interest to note that one Chapter of the Institute, namely, Cincinnati, is a member of the American Society for Testing Materials and also that the Illinois Society of Architects is a member.
## General Index to Structural Service Department

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**Columbian Sash & Pulleys**

**Bound Volumes for 1916**

*In Buckram, $2.50 In Half Morocco, $3.50*

Loose numbers to be exchanged for Bound Volumes should be sent to the Office of the Journal at The Octagon, Washington, D. C. Missing numbers will be supplied at current rates of 35 cents per volume.

Cheques should be made payable to the order of the Journal, and should accompany orders.

A very limited supply of back bound volumes is on hand at the price of $6 in Buckram; $7 in Half Morocco, an allowance of $3.50 being credited for 12 numbers returned in good condition.

**Journal of the American Institute of Architects**

August, 1917
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These two illustrations show very strikingly the many advantages of AMERICAN Rococo Wall Radiators over pipe coils for factory and warehouse heating.

AMERICAN Rococo Wall Radiators can be erected on walls, ceilings, skylights and in narrow passageways, on girders or columns and around windows—easily installed in small units to accommodate any spare space not otherwise usable.

Wall radiator units are easily rearranged, increased or diminished in size and permit of adjusting the heating supply to the weather demands—thus preventing much fuel waste and overheating.

Send for catalog “American Rococo Wall Radiators”—shows many ingenious installations which give most effective and economical heating results

AMERICAN RADIATOR COMPANY
Sales Branches and Showrooms in all the large cities
A New Book
On Swimming Pools

The constructive work that is being done by this association is again illustrated in the publication of a new book, "Swimming Pools," which recently came from the presses.

This book, following the one dealing with Tile for use in Hospital Construction, is evidence of the association's desire to render a helpful service to architects.

It will be followed by others of equally constructive character, and architects are invited to take advantage of the assistance which all these books relating to Tile and its uses will render.

If you have not received your copy, write to the

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Industrial Section
Journal of the American Institute of Architects
August, 1917
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industrial section  journal of the american institute of architects  August, 1917
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Industrial Section
Journal of the American Institute of Architects
August, 1917
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Government Housing Scheme,
Well Hall, Woolwich, 1915.
View in Ross Way Looking East.
The War—The Machine—The Man!

The significant thing about the vast governmental housing undertakings of Great Britain, of which Well Hall, one of the most important, is illustrated in this number of the Journal of the American Institute of Architects, does not lie in either the technique of the operation or the result. The significance lies in the fact that War has given a prominence to housing such as Peace could not give. War has made us see that the philosophy of housing—call it the science if you will—as applied on so vast a scale by Germany, was really inspired by her profound analysis of what would be necessary first to prepare for war, and second to conduct a war. Germany foresaw what England had to learn—that a modern army is dependent upon the industries at home; that War demands more from industry than does Peace; that the meeting of those demands which mean national life or death depends upon obtaining the utmost in skill and energy from the workers who supply the soldiers; that workmen cannot put forth those qualities except under living conditions which constantly renew and thus maintain the highest vitality. Peace has enunciated this economic principle with a voice which has been drowned to a whisper. War shrieks the message to the nation and makes it heard above all other cries, and England has heard so well that in addition to the extraordinary plans which have already been executed—under financial and industrial pressure which only add to their extraordinary character—she is looking far ahead into the future and making ready to provide new living conditions to replace the old. She is now far-seeing enough to understand that the essential principle of her national existence cannot be left to the speculative builder.

Independently and in spite of the emergency housing which already has been undertaken by industrial corporations and by private capital, the industrial housing situation in the United States is at this moment a vital and yet scarcely recognized factor in our war-time industrial production, upon which all other things depend. A most casual examination of the facts will bring one face to face with the knowledge that unless the Government will cope with the problem of housing workmen as it is meeting the problems of housing machinery, we shall shortly be at an impasse. It is useless to encourage industry to expand while leaving the housing of workmen to chance and caprice.

At Bridgeport, Connecticut, for example, a new factory for war purposes is being rushed to completion. It will employ a thousand operatives. There is at present, as we are informed, not a single house available for rent in Bridgeport, nor is there any capital available for building. The Government is, we are told, furnishing money for the new building to contain the machinery while the housing problem is totally ignored! Could anything be more shortsighted? This is one situation in many, and fresh ones are developing with every step which the Government is taking toward speeding up production. Our ability to build ships is found to be based upon first housing the workmen. In almost every industrial center, large or small, the cry is for houses and more houses. The private capital usually available for operations of this kind is being diverted to other uses where the gains promise to be large. The very war-time hazard
attending upon many of these demands for more houses deters capital, while the present cost of building also adds an element of uncertainty as to the future of the investment. It is by no means certain that rentals based upon present building costs will continue to be payable by workmen, and there are doubts, in many cases, as to the permanent nature of the industries for which houses are needed.

The situation has developed with amazing rapidity and will soon reach a climax that cannot be ignored. It seems that it might have been possible to foresee this by making a simple study of the human element involved, but the problem is now here and has assumed menacing proportions. Upon the speed and thoroughness with which it is met will depend our ability to supply the equipment without which we cannot successfully perform our share in France. There seems to be no other agency capable of quickly assuming the direction and control of the problem than that of the National Government.

This was the step which England found it necessary to take, and in that country the need was met with the same degree of energy and ability which has characterized the remarkable industrial transformation which the war has forced her to undertake. More than that, she was wise enough not to try to meet the situation by temporary makeshifts but by building permanent houses which are to remain as a national asset, or else by building, as she did in some localities, other buildings such as hospitals, which later easily can be converted into substantial modern houses at low rentals. She met the problem squarely and with economic astuteness.

For the United States Government to extend financial aid to home building, in whichever one of the forms that have been put into operation in every other civilized country, would be more of a jump than a step. We are inexperienced in dealing with the question, whereas European countries without exception have all extended financial aid to the building of homes for workmen. But it would be as absurd to argue over the principle involved, at this moment, as for an engineer to hesitate at cutting down an apple orchard in order to build a bridge to save a division of troops. War is relentless. It asks plain questions and insists on getting the answer. The answer to this war is industrial organization. The answer to that is homes for workmen to live in. The answer to that is to build them now and cut off the delay and waste involved by waiting for somebody else to do it. When we are spending at the rate of $50,000,000 a day, delays cost money!

As to the method by which the Government should extend aid it seems evident from the facts now available that private capital only needs to be supplemented to the extent of relieving it of the risk consequent upon the uncertain nature of those undertakings where permanency is involved. To meet this same condition in the expansion of industrial plants and not to meet it by absolutely assuring the necessary house building is to refuse to recognize an elementary business principle. The methods of extending governmental aid by the principal countries of the world are set forth in the volume published by the Department of Labor in 1915 and are familiar to those who have studied the housing question in European countries.

The Government is already at work in a preliminary consideration of plans for coping with the housing shortage at some of the vital points, and it seems not unlikely that the building of Government-owned workmen's houses may begin in the near future. On account of the shortage of capital, several large industrial housing schemes which had been started have now come to a stop.

In Washington, the congestion has now so hampered the administrative functions of the Government that Congressman Fitzgerald, of New York, has advocated the erection of a three-story temporary office building, of frame construction, with a ground-area of 350,000 square feet, and designed to provide space for 10,000 employees. It is planned to erect this building on the Mall, not far from the Capitol, and while the site selected seems less desirable than others which might have been found, this plan would undoubtedly prevent the further mulcting by owners of buildings, who are now collecting no less than a million dollars yearly from the Government. Yet one hesitates to think of what might happen in the event of a fire in such a structure. Temporary buildings are undoubtedly the answer to the immediate needs, but they must be made safe to life, at no matter what expense.
The Organization of the War Department for Construction Work*

(Furnished by the Government Committee on Public Information)

Office of the Cantonment Construction Division of the Quartermaster's Department

All work pertaining to the thirty-two cantonments for housing the National Guard and National Army, also embarkation depots, warehouses, etc., is handled by Colonel Littell through the organization which has just been set up for that purpose, with Captain Marshall as his Adjutant.

In order to carry out the work, the duties and responsibilities of the several divisions are defined as follows:

Engineering Division.

The officer in charge of the Engineering Division prepared the typical plans of cantonments, including water distribution, internal sewer and draining lines, lighting distribution, trucks, roads, etc. He secured, with Colonel Littell's approval in each case, the services of consulting engineers to do all the engineering involved in water-supply and sewage-disposal, as this is work which must be done in the field.

Designs prepared for such works are submitted, through Colonel Littell, to the consulting engineers of the Committee on Emergency Construction for approval or comment.

He determines and defines the requirements in the way of laundries, incinertors, refrigerating plants, and informs the Material Officer of the requirements, including any other information that he gets incidental to these investigations, and he and the Material Officer together discuss and recommend to Colonel Littell where these contracts and other similar contracts should be placed, the details of the purchasing being in the hands of the Material Officer.

Material Division.

The officer in charge of the Material Division makes recommendations as to placing all contracts for material to be purchased by this organization. He consults freely with the Engineering Office and with Colonel Littell in connection with the purchase of such equipment as power plants, pumping machinery, refrigerating plants, and similar items, and with the Constructing Officer on building materials and supplies.

He keeps in touch with the various supply committees of the National Munitions Board and works out with those committees the best method of handling supplies of material which they may control.

He also has charge of the inspection and expediting of materials and equipment, excepting such part of this work as may be turned over to the several contractors, and even in these cases is ready at all times to help the contractors in any way possible to secure the necessary materials.

The details of transportation from points of manufacture to the several cantonments are handled by the several contractors, but transportation requirements are worked out in advance and arrangements made with the railroad association and with the Transportation Committee of the Munitions Board so that cars are available and transportation expedited in every way possible.

Construction Division.

The officer in charge of the Construction Division is in charge of all operations in the field and handles the correspondence, directly or through his representatives, on all questions arising between the office and the contractors, or between the office and constructing quartermasters stationed at the several cantonments.

The officer in charge selects assistants, each one to follow in detail the work located in the several cantonments as assigned.

Any correspondence originating in any part of the office other than the Construction Division is signed by the officer originating the correspondence but goes out over the desk of one of these assistant construction officers, so that they can be familiar with all matters under discussion.

In the same way all correspondence coming in from constructing quartermasters, referring to engineering, material, or accounting matters, comes in over the desk of the proper assistant construction officer, to be noted and forwarded to the officer in charge of the department having jurisdiction.

In addition to the assistant construction officer located in this office and mentioned above, there are other assistant construction officers similarly assigned who act as field supervisors and circulate, each in his own territory, practically all the time, reporting to this office after each visit to a job.

Accounting Division.

The officer in charge supervises accounting matters and the general administration of the office.

Under his direction an accountant is chosen who handles the accounts of this office and supervises the work of the accountants stationed at the various cantonments, and also of the auditors. Each of these auditors covers a territory corresponding to the territory covered by one of the assistant construction officers and visits the jobs in his territory often enough to be sure that office routine and accounting matters are being handled satisfactorily.

*Referred to in Structural Service Department of August Journal.
The officer assigned to duty in this Division for legal matters advises with all divisions of the office at any and all times, and every precaution is taken to comply with laws and regulations, with particular reference to matters involving expenditure of funds.

**Constructing Quartermaster's Office.**

Each Constructing Quartermaster reports to the office through one of the assistant construction officers outlined above. He has an assistant who is a civil engineer, and there is under him whatever force of surveyors, draftsmen, auditors, etc., is needed by particular circumstances.

The Constructing Quartermaster has the responsibility of adapting to the topographical conditions typical plans furnished by the office.

As outlined above, he has the assistance of civilian engineers in the planning of water-supply, sewage-disposal, etc. The contractor does such engineering work as is necessary to carry out the plans.

The conditions in various cantonments differ, and matters of this kind are left largely to the judgment of the Constructing Quartermaster to be decided for each cantonment on its own merits, after consulting with the office.

The duties of the Construction Division of the Signal Corps cover all activities relating to the design and construction of signal corps and aviation buildings, and maintenance and repair of all buildings, both temporary and permanent. It has charge of the railroad transportation of supplies, material, and personnel of the corps.

The work of the Division, under the direction of its chief, is divided into departments, each in charge of an officer detailed from the Signal Corps, with the single exception of the Engineering Division which is in charge of an officer detailed from the corps of engineers, U. S. Army, and the real estate division in charge of a trained real estate operator on a civil status.

**Administration Division.**

(a) Administration.—This division has general supervision of all correspondence, organization, office methods, annual estimates, and coordination of division work, etc., and is in charge of an assistant chief, or acting chief in his absence.

(b) Transportation.—This division has charge of the movement of all supplies, material, and personnel of the corps.

(c) Records and Audits.—This division operates two subdivisions, one having charge of records and audits at its offices in Washington, two in charge of records and audits in the field.

(d) Engineering.—This division operates through two subdivisions. One is located in Washington in general charge of engineering problems, plans, specifications, prices, and inspections. It arranges for the purchase of material and supplies for building operations. The second superintends building operations and engineering problems in the field, inspects material as delivered, and adjusts wages and labor disputes.

(e) Real Estate.—This division has charge of the inspection of proposed aviation training-fields, the inspection of other proposed sites for signal corps buildings, preparing and renewal of leases, examination of titles, and it is charged with notification to the Finance Division of dates of payments on leases in advance of their maturity.

(f) General.—An advisory architect has been retained who furnishes the Division with plans and specifications for the buildings used for aviation, both temporary and permanent, and whose opinion is secured on all material and supplies.

The duties of the Construction Division of the Signal Corps cover all activities relating to the design and construction of signal corps and aviation buildings, and maintenance and repair of all buildings, both temporary and permanent. It has charge of the railroad transportation of supplies, material, and personnel of the corps.

The work of the Division, as will be seen from the above, is divided into work in Washington and work in the field. At each building operation an officer in charge is furnished by the Engineering Department with assistants who are trained by means of daily meetings at the work to complete familiarity with standard plans, specifications, and design of buildings for the Signal Corps. A chief auditor and sufficient assistants are furnished at each building operation to supervise the books of the contractor, to check pay-rolls and material bills, to prepare for him the vouchers and papers necessary to be furnished to the Finance Division in Washington before payments can be made. In addition, inspections are regularly made by officers from the headquarters of the division in Washington during the course of the work.
WELL HALL is only one of the British Government's housing operations. It is situated about a mile from Woolwich and is a complete new development. It consists entirely of permanent dwellings for workmen. There are four types of houses of from two to four rooms with bath, the rentals ranging from seven shillings to fifteen shillings and sixpence a week. There have been built some sixteen hundred houses, all of the best materials available, and the design has preserved the traditions of English rural life. Mr. Ewart G. Culpin, Secretary of the International Garden Cities and Town Planning Association, whose article in the April Journal dealt with the application of town-planning principles to the new housing developments of England, writes that he believes Well Hall to be "easily the first thing in cottage plans and elevations for the whole world." This statement is perhaps capable of a wrong interpretation, for it is evident that the plans would not suit living conditions in the United States; but, from the point of view of a great housing undertaking deliberately undertaken by a Government and guided by experts to yield the maximum advantages consistent
with a given mode of life, Well Hall is undoubtedly entitled to rank where Mr. Culpin places it.

Of primary importance in the consideration of the underlying reasons which led to the building of Well Hall is the fact that in spite of urgent necessity it was decided to make it a permanent enterprise rather than a merely temporary one. This has been the consistent policy of the British Government, except where urgency made it impossible to wait upon permanent construction, for the difference in cost between permanent and temporary work is measured by a small margin, and it was decided that it would be folly to throw away money upon makeshift expedients. Possibly this decision was also influenced by the knowledge that nothing is harder to be rid of than a temporary building. We believe that the shacks built at the time of the flood emergency in Galveston...
are still doing duty as slums, and such is the usual experience with temporary buildings. In cases where the British Government could not spare the time necessary to build permanently, huts of a temporary or semi-temporary character were constructed, either of concrete slabs or wooden framing. These were three in type and, as built at East Riggs, another important housing development, will be illustrated and described in the October Journal, which will also contain a list of references on Industrial Housing.

In addition to these purely housing operations, the Government has erected stores, halls, and other public buildings necessary for a good-sized town; in one case there were provided bakeries, a central kitchen, laundry, schools, churches, and all the usual accessories of community life.
Ground Floor Plan.

Government Housing Scheme,
WELL HALL, WOOLWICH. 1915;
Group facing WELL HALL and CONGREVE ROADS, 1st and 2nd Class.

H. M. Office of Works
Westminster,
London, S. W.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
Entrance Group in WELL HALL ROAD, East Side.

H. M. Office of Works,
Westminster,
London, S.W.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
View in WELL HALL ROAD Looking South.

H. M. Office of Works,
Westminster,
London, S.W.
Government Housing Scheme,
Well Hall, Woolwich. 1915.
A Group in WELL HALL ROAD Looking South.

H. M. Office of Works,
Westminster,
London, S.W.
Government Housing Scheme,
Well Hall, Woolwich. 1915.
View in WELL HALL ROAD Looking North.

H. M. Office of Works,
Westminster,
London, S. W.
Government Housing Scheme,
Well Hall, Woolwich. 1915.
Crescent near Station in WELL HALL ROAD.
Government Housing Scheme,
Well Hall, Woolwich. 1915.
View in ROSS WAY Looking East.
GOVERNMENT HOUSING SCHEME,
WELL HALL, WOOLWICH. 1915.
WHINYATES ROAD from ROSS WAY Looking South.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
A Group in Whinyates Road Looking North.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
Sandby Green, Looking North.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
LOVELACE GREEN Looking North.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
Pair of Cottages in LOVELACE GREEN.
GOVERNMENT HOUSING SCHEME,
WELL HALL, WOOLWICH, 1915.
View in ARSENAL ROAD Looking South.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
CONGREVE ROAD (Boughton Road Crossing) Looking South.

H. M. Office of Works,
Westminster,
London, S.W.
Government Housing Scheme,
Well Hall, Woolwich. 1915.
Junction of Congreve Road and Maudslay Road Looking North.
GOVERNMENT HOUSING SCHEME,
WELL HALL, WOOLWICH, 1915.
View in CONGREVE ROAD Looking North.
Government Housing Scheme,
Well Hall, Woolwich. 1915.
Group of Houses in DOWNMAN ROAD.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
View of GILBORNE WAY Looking West.

H. M. Office of Works,
Westminster,
London, S.W.
Government Housing Scheme,
Well Hall, Woolwich, 1915.
View in Dickson Road Looking East.
Government Housing Scheme,
Well Hall, Woolwich 1915.
Block of Flats, GRANBY ROAD, Class IV.

H. M. Office of Works,
Westminster,
London, S.W.
NEARLY all our cities are built upon unscientific exploiting systems, a good deal as we encourage the sale of liquor to gather a tax, and then have all sorts of reformatories and asylums to care for the victims.

Most buildings that house the masses are built to sell, and so they are built shoddily and only as good as they must be in direct proportion to the building laws and municipal supervision. The idea of building real well never enters the head of the building promoter, who may not be a builder at all. In fact, usually he is a storekeeper or trader who sees far more profit in selling a building than he does in selling clothes or suspenders, because the amount involved is larger and the purchaser is more ignorant. He is usually in league with a loan man or institution, which latter, I am sorry to say, is frequently a savings bank. But usually the loan is sold as soon as the building, and so the two original partners step out immediately and turn the project over to two other innocent people, who try from then on to squeeze an income out of a rotten machine which gets worse and worse rapidly until a few years after, health boards order the premises vacated.

New York, proud New York, the self-appointed example to the rest of the states, not only allows but recommends this miserable type illustrated below.

What are we architects to say about such a thing; calmly let it pass, or protest? If we cannot suggest something better, we are grossly incompetent or indifferent.

Now, again, how about all this stuff about the individual house for the employee in the industrial town? Have you ever seen the result, reader; have you ever pushed down to the fundamentals of this talk; have you ever studied the balance-sheet to see if the truth is being stated? Are you sure the lowest paid in the factory are being housed at all or are they boarding, rooming, or crowding? If not, they soon will be. How can the lowest incomes afford to sustain those individual public utilities which our knowledge of health demands? In cold climates how can each family shovel coal, or in warm, have enough energy left after a day’s work to look after plumbing, shutters, gutters, and leaders? Why should we foist all this work and repairs upon the individual occupant—the stitch in time to save nine—when he or she or both have had a hard day’s work in the mill or factory or mine, and who are supposed to have a family of children besides? The answer is to be found in the word exploitation at times, for it has been soberly brought to the writer’s attention that a long-time obligation, like a fifteen-year mortgage upon the workman’s cottage, has a tendency to keep the operative in the factory organization. He is less likely to strike or leave if he has paid something on his house. When it is not wilful exploiting then it is gross ignorance and lack of imagination or sympathy, for how can the general run of house occupants know how to take care of their real estate in such a manner as will cause it to last and not become a source of expense? Even the most intelligent of us seem not to understand how to make a house hold out year after year. No, the answer is a multi-family house, with expert repair men constantly on the job, men who like such work, just as

![A Bad Type That Gives A Bad Name to the Multi-Family House, Built by the Million This Year in Greater New York](image-url)
MULTI-FAMILY VERSUS INDIVIDUAL HOUSES

Sawtooth Economic Open Stair Type, Three Families to a Floor, Three Stories High, Nine Families to a House or Stair-case. 252 Families in All, in 50 Acres

Each of these houses has the same number of families, each family having four rooms and a bath. Conducive to Economical Steam Heating and Application of Other Public Utilities

other men, like myself, hate it—one man a tinsmith and plumber, another a painter, another man to take away the garbage, say twice a day, and burn it in an incinerator to produce hot water. We shall also want women to collect the rent and cooperate with the families in regard to their varying necessities.

Then we get as true efficiency in the life of the factory families outside the factory as we do inside, and the occupants can buy the stock of the housing company and be represented upon the board of directors or they can in time be the sole managers.

The multi-family house is thought to bring about congestion, but it is a very idle, immature thought that jumps to such a conclusion. Property restrictions are usually in vogue in some form or other, even with an individual house scheme. It is quite feasible, without a strain on one's mentality, to imagine that a similar restriction could be made regarding a multi-family house scheme.

Let us limit the number of families per acre, and let us induce some kinds of families on some acres and other kinds on others, according to the type and finish of the buildings, or the
character of the probable occupant. What shall that limit be? It will vary, no doubt, according to conditions, but let us assume that it is to be five families to the acre, a very roomy layout (8,712 square feet to a family, 100 x 87), provided we don’t waste a lot of the ground in streets and pavements (for the convenience of the tradesman), the maintenance of which becomes a heavy tax upon our resources, and the danger of which to our children is proverbial. Let’s away with the street entirely; it may be of great interest to the engineer—curbs, sidewalks, grades, fills and cuts, sewer and water out under the roadway in an inconvenient place to connect and repair—but to an architect the roadway is a means to an end, and one of very doubtful value.

Let us study a layout of a square plot of, say 50 acres, and I will leave the solution of that plot to anybody else who wants to submit in a following article how he would improve matters by covering the property with an identical number of individual homes, or semi-detached, or triple or quadruple, or any other kind of a make-shift, including the world-renowned terrace type that makes Philadelphia and Baltimore famous. I submit two types: both multi-family, coöperative types; both having their heating, sewage, domestic hot water, lighting, power (for sewing and other light machines) provided from central plants; both having repairs done by experts who do nothing else; both assuring rent is paid just as taxes; and both giving the occupant every opportunity to become an owner of the stock with a voice in the management.

The two types I suggest are the “sawtooth economic open stair” type and the linear type suggested by Mr. Stephen Lengyel and Mr. Edgar Chambless, respectively. In certain cases, one type will be preferable to the other, depending on the contour and shape of the property and other conditions such as proximity to the central plant. In the sawtooth type the heating plants can economically be distributed, one to each 75, 100, or 125 families, and can be contained right in the basement. In the linear type the heating plant and sewage system are a little more difficult, but other considerations keep the comparison very close.
The New License or Registration Law for Architects

Now in Force in the State of Illinois

It Abolishes the Old Board of Examiners and Its Officers, and Puts the Enforcement of the Law into the Hands of a Director of Registration and Education, Who is Not an Architect, and Has the Same Authority over Twenty Other Departments Comprising the Department of Registration and Education; in the Performance of Which Function he is Assisted by Committees of Architects Nominated by the Regular Organizations of Architects within the State

By PETER B. WIGHT, F.A.I.A.

Seventeen Years Secretary of the Illinois State Board of Examiners of Architects

The examination and licensing of architects in the State of Illinois and the regulation of the practice of architecture as a profession is no longer the legal prerogative of a Board of Examiners consisting of five architects in that State. It is now the duty of The Department of Registration and Education organized on the 1st day of July, 1917, under "An Act" passed by the present General Assembly "in relation to the civil administration of the State government, and to repeal certain acts named therein."

This does not mean that there is any diminution of the effectiveness of the original Architects' License Law, with the various amendments which from time to time have been adopted to facilitate its better enforcement, but that the licensing of architects and regulation of the practice of architecture as a profession are to proceed from a higher authority than heretofore; one which should be more highly respected by the architects and the community than has been the case, and which is intended, if possible, to remove it from the taint of party politics, which formerly was possible.

Illinois a Pioneer State

The State of Illinois, as in much other progressive legislation, has been the pioneer in the United States in legislation for good architecture. The first license law was passed June 3, 1897, and had been in force since July 1 of that year, just twenty years, until the new Civil Administration Code came into force July 1, 1917. This code is far-reaching in its effect. It has been agitated just four years, and in the form in which it was adopted has been under consideration for one year last past. It was first prepared by a commission appointed by the General Assembly of 1915, and it was the principal measure advocated by Governor Frank O. Lowden, in his canvass before the people, which resulted in his election in 1916 by a large majority of the popular vote. It was introduced early in the session of 1917, and took precedence of all other legislation. Governor Lowden took personal interest in it and followed minutely every stage of the proceedings in the General Assembly. The interests of architects in the regulation of their profession, of structural engineers in theirs, and in public works and buildings by both, were of minor consequence in comparison with those of the State's Charities, Finance, Agriculture, Mines, Public Health, Trade and Commerce and many other departments. Yet they have received careful attention, and the Governor called upon the organized associations of both architects and engineers to consult with him about the provisions of the act which were of interest to them, and has accepted all that were reasonable. Hence the influence of both professions was exerted in behalf of its passage.

The "Consolidation" Bill

The whole scheme was so great and comprehensive that it was evident to all that it was useless for any to seek any special favors. It was known as the "Consolidation" bill, and its main purpose was to eliminate overlapping authority and to bring together co-related departments of the government and all of them more directly into contact with the supreme executive authority which is vested by the Constitution in the Governor himself. A governor who was not afraid to assume it was at the head of the movement. It may be of interest to know that, in this consolidation, twenty-four acts and parts of acts establishing governmental departments were repealed in this bill; but the Architects' License Law was not repealed. Only the State Board and officers under the Board were abolished and their authority vested in the director of one of the departments. But this Director of the Department of Registration and Education also has official authority over the business heretofore done by twenty other state boards and minor departments; and he is only one of nine department heads, who constitute the Cabinet of the Governor; and all are responsible to him.

A Sketch of the New Law

A few extracts from the new law covering anything directly or indirectly relating to architects will probably make this digest more brief than a general description of its requirements. The same might also be said of those relating to structural engineering.

"Section 3. Departments of the State government are created as follows: (1) Finance; (2) Agriculture; (3) Labor; (4) Mines and Minerals; (5) Public Works and Buildings (this includes the office of the State Architect); (6) Public Welfare; (7) Public Health; (8) Trade and Commerce; (9) Registration and Education (this includes the registration of structural engineers as well as architects, each under its own Act)."

"Section 4. Each department shall have an officer at its head who shall be known as a Director, and who shall, subject to the provision of this Act, execute the powers and discharge the duties vested in him by the Constitution of the State, and the Acts of the General Assembly."

"The following offices are hereby created....."

"Director of Registration and Education, for the Department of Registration and Education." [In other parts of the Act, from information furnished by the Governor's office, it appears that the officers of this department are as follows:]

Director, Francis W. Shepardson, Chicago. Salary, $5,000.00.
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Assistant Director, Ernest A. Weidt, Chicago. Salary, $3,600.00.
Superintendent of Registration, Fred C. Dodds, Springfield. Salary, $4,000.00.

Section 2. Neither the Director, Assistant Director, Superintendent of Registration, nor any other executive and administrative officer in the Department of Registration and Education shall be affiliated with any college or school of medicine, pharmacy, dentistry, nursing, optometry, embauling, barbering, veterinary medicine and surgery, architecture, or structural engineering, either as teacher, officer, or stockholder, nor shall he hold a license or certificate to exercise or practise any of the professions, trades, or occupations regulated.

From this it will appear that no architect can have any executive authority in enforcing the law, as was the case formerly with the State Board and its officers. The professional relation of architects and the voice of organizations of architects will be explained later on. The same is the case with structural engineers.

Section 16. The director of each department is empowered to prescribe regulations, not inconsistent with law, for the government of his department, the conduct of its employees and clerks, the distribution and performance of its business, and the custody, use, and preservation of the records, papers, books, documents, and property pertaining thereto.

This undoubtedly insures the preservation of all the records, papers, and filed documents of the State Board of Examiners of Architects accumulated during the last twenty years, all of historical value and precious for reference during succeeding years; but, as far as the rules of procedure of the old board, which were authorized by law, are concerned, it remains to be seen how far the Director of twenty-one subsidiary departments, who is not an architect and not technically acquainted with the usages of the profession, will renew and reestablish it for his own governance. They were the result of nineteen years of experience in executing the license law, were last amended in 1916 and published, with the last biennial report in January of the present year. It will also be noted in the section above quoted that the Director has absolute authority to make such rules independent of the law under which the old board received its authority. It is expected, however, that he will pay due respect to the opinions of his predecessors in exercising this authority.

Section 17. Each department shall maintain a central office in the Capitol Building at Springfield, in rooms provided by the Secretary of State.

The former office of the State Board in Chicago was closed July 1 and all its records and property removed to the Capitol Building at Springfield.

The following extracts from the new law have a more or less direct bearing upon the acts of the State Board of Examiners of Architects during the last twenty years, and do not seem to controvert any of them. The court decisions upon the law will doubtless hold as if the whole of the old law were in force.

Section 22. Whenever rights, powers, and duties, which have hitherto been vested in or exercised by any officer, board, commission, institution, or department, or any deputy, inspector, or subordinate thereof, are, by this Act, transferred, either in whole or in part, to a board in a department created by this Act, such rights, powers, and duties shall be vested in, and shall be exercised by, the department to which the same are hereby transferred, and not otherwise, and every act done in the exercise of such rights, powers, and duties shall have the same legal effect as if done by the former officer, board, commission, institution or department, or any deputy, inspector, or subordinate thereof. Every person and corporation shall be subject to the same obligations and duties and shall have the same rights arising from the execution of such rights, powers, and duties as if such rights, powers, and duties were exercised by the officer, board, commission, department, or institution, or deputy, inspector, or subordinate thereof, designated in the former Act which is to be administered by this Act. Every person and corporation shall be subject to the same penalty or penalties, civil or criminal, for failure to perform any such obligation or duty, or for doing a prohibited act, as if such obligation or duty arose from, or such act were proscribed in, the exercise of such right, power, or duty by the officer, board, commission, institution, or deputy, inspector, or subordinate thereof, designated in the respective laws which are to be administered by departments created by this Act.

Every officer and employee shall, for any offense, be subject to the same penalty or penalties, civil or criminal, as are prescribed by existing law for the same offense by any officer or employee whose powers or duties were transferred upon him under this Act. All books, records, papers, documents, property, real and personal, unexpended appropriations, and pending business in any way pertaining to the rights, powers, and duties so transferred to or vested in a department created by this Act, shall be delivered and transferred to the department succeeding to such rights, powers, and duties.

Section 23. Wherever reports or notices are now required to be made or given, or papers or documents furnished or served by any person or to upon any officer, board, commission, or institution, or deputy, inspector, or subordinate thereof, abolished by this Act, the same shall be made, given, furnished, or served in the same manner as to or upon the department upon which are devolved by this Act the rights, powers, and duties now exercised or discharged by such officer, board, commission, or institution, or deputy, inspector, or subordinate thereof; and every penalty for failure so to do shall continue in effect.

Section 32. Whenever rights, powers, and duties, which have here-tofore been vested in or exercised by any officer, board, commission, institution, or department, or any deputy, inspector, or subordinate thereof, are, by this Act, transferred, either in whole or in part, to a board in a department created by this Act, such rights, powers, and duties shall be vested in, and shall be exercised by, the department to which the same are hereby transferred, and not otherwise, and every act done in the exercise of such rights, powers, and duties shall have the same legal effect as if done by the former officer, board, commission, institution or department, or any deputy, inspector, or subordinate thereof; and every penalty or penalties, civil or criminal, for failure to perform any such obligation or duty, or for doing a prohibited act, as if such obligation or duty arose from, or such act were proscribed in, the exercise of such right, power, or duty by the officer, board, commission, institution, or deputy, inspector, or subordinate thereof, designated in the former Act which is to be administered by this Act. Every person and corporation shall be subject to the same penalty or penalties, civil or criminal, for failure to perform any such obligation or duty, or for doing a prohibited act, as if such obligation or duty arose from, or such act were proscribed in, the exercise of such right, power, or duty by the officer, board, commission, institution, or deputy, inspector, or subordinate thereof, designated in the respective laws which are to be administered by departments created by this Act.

Every officer and employee shall, for any offense, be subject to the same penalty or penalties, civil or criminal, as are prescribed by existing law for the same offense by any officer or employee whose powers or duties were transferred upon him under this Act. All books, records, papers, documents, property, real and personal, unexpended appropriations, and pending business in any way pertaining to the rights, powers, and duties so transferred to or vested in a department created by this Act, shall be delivered and transferred to the department succeeding to such rights, powers, and duties.

Section 33. Wherever reports or notices are now required to be made or given, or papers or documents furnished or served by any person or to upon any officer, board, commission, or institution, or deputy, inspector, or subordinate thereof, abolished by this Act, the same shall be made, given, furnished, or served in the same manner as to or upon the department upon which are devolved by this Act the rights, powers, and duties now exercised or discharged by such officer, board, commission, or institution, or deputy, inspector, or subordinate thereof; and every penalty for failure so to do shall continue in effect.

Section 34. This Act shall not affect any act done, ratified, or confirmed, or any right accrued or established, or any action or proceeding had or commenced in a civil or criminal cause before this Act takes effect; but such actions or proceedings may be prosecuted and continued by the department having jurisdiction, under this Act, of the same matter to which such litigation or proceeding pertains.

The following section provides for the abolition of about one hundred and twenty-five State boards, commissions, and offices comprising more than two hundred officials and two thousand employees. This is the most important feature of the so-called "Consolidation" Act, which is intended to simplify the whole system of government by retaining those branches which are essential and preventing overlapping authority; abolishing offices long since found to be useless, among which were many sinecures which were only of political importance to those holding them. So far as concerns the architects' and engineers' boards, the boards themselves and the officers under them only, are abolished, and the laws under which they were appointed remain in force, their duties and authority only being transferred to the Director of the twenty-one offices comprised in his department, including all of the professions and occupations heretofore regulated by law.

Section 35. Each department shall maintain a central office in the Capitol Building at Springfield, in rooms provided by the Secretary of State.

The following extracts from different sections further pertain to the duties and authority of the Department of Registration and Education.

Section 58. The Department of Registration and Education shall have power—

(4) To exercise the rights, powers, and duties vested by law in the State Board of Examiners of Architects; and (of all the other State boards that are not abolished.)

Section 60. The Department of Registration and Education shall, wherever the several laws regulating professions, trades and occupations which are devolved upon the department for administration so require, exercise, in its name, but subject to the provisions of this Act, the following powers:

1. Conduct examinations to ascertain the qualifications and fitness of applicants to exercise the profession, trades, or occupations for which an examination is held; and pass upon the qualifications of applicants for reciprocal licenses, certificates, and authorities;

2. prescribe the rules and regulations for a fair and wholly impartial method of examination of candidates to exercise the respective professions, trades, or occupations;

3. Conduct such examinations as are prescribed by law; and administer the general laws, certificates, or authorities of persons exercising the respective
THE NEW LICENSE OR REGISTRATION LAW

professions, trades, or occupations, and to revoke or to refuse to renew such licenses, certificates, or authorities;

"4. Formulate rules and regulations when required in any act to be administered.

"None of the above enumerated duties and functions shall be exercised by the department of registration and education, except upon the action and report in writing of persons designated from time to time by the director of registration and education to take such action, and to make such reports, for the respective professions, trades and occupations as follows:

"For the Architects, five persons, one of whom shall be a member of the faculty of the University of Illinois, and the other four of whom shall be architects residing in this State, who have been engaged in the practice of architecture at least ten years.

"The action or report in writing of a majority of the persons designated for any trade, occupation, or profession, shall be sufficient authority upon which the director of registration and education may act.

"In making the designation of persons to act for the several professions, trades, and occupations the director shall give due consideration to recommendations by members of the respective professions, trades, and occupations and by organizations therein.

"Whenever the director is satisfied that substantial justice has not been done either in an examination or in the revocation of or refusal to renew a license, certificate, or authority, he may order re-examinations or re-hearings by the same or other examiners.

"Section 61. All certificates, licenses, and authorities shall be issued by the department of registration and education, in the name of such department, and with the seal thereof attached."

This concludes a compilation of the sections and parts of sections in the Act, directly or indirectly referring to architects, and, in connection with all the clauses in the old law not eliminated by the Act, comprises the license, or registration law of the State of Illinois for architects as now in force.

The Administration of the Law

I am advised by the Department of Registration and Education that it has not been determined yet what amount will be paid to the examiners of the various professions, but in the case of the architects it will not be less than $10 per day, as formerly provided for members of the State Board of Examiners of Architects. They will also receive their traveling expenses. There is an appropriation sufficient to pay for such services. The Director has power to determine the compensation. The Superintendent of Registration will have charge of all of the administration work in connection with the examining and licensing of the professions, trades, and businesses now being licensed by the State. He is subject to the orders of the Director of Registration and Education, who is the supreme authority in his department. The Superintendent of Registration simply is the head of a division in the department and is subordinate to the Director.

The Department is authorized to establish branch offices in other parts of the State should it be necessary. Employees will all be under Civil Service rules.

Annual reports to the Governor, of all departments, will be made in December of each year.

Conclusion

It must now be a comfort to those who hug to their breasts the delusive idea that the registration of architects is something more respectable and honorable than licensing them, to know that the architects of Illinois are now registered under this act. That is, they are registered because they were licensed; the license "permitted" them to be registered in the Department of Registration and Education. This is the proper use of the terms. But whether this is a licensing or registration law is a matter of little importance. The law confirms the acts of the old licensing board, and puts all architects under the authority and discipline of State officers. It is simply another step in the progressive legislation of 1897 which first gave architects a legal status in this country. Many of the states have followed, or tried to follow the lead of Illinois, but few of them have succeeded in doing it all. In several states such laws were introduced in legislatures during the present year. Some were for licensing, some for registration. Some passed and some did not. Now their advocates will have another chance to sit up and make another study of Illinois' experience. New York got its registration law amended but it did not succeed in its main purpose, and get around the opinion of its own attorney-general, that a man who had called himself an architect could continue to do so, and could not be compelled to register. The law there only enables a man to be protected by calling himself a "Registered Architect," after he is registered. I can not see why anyone should want to call himself a "Registered Architect" if he did not want to be registered or could not get registered if he wanted to.

The Illinois architects are in good company because the new Department under which they are enrolled is not only a Department of Registration, but of Education also. It has authority over all educational matters in the State except the University of Illinois, which has a special and old charter; but the Department is already cooperating with it in certain matters, such as the Geological Survey. Some day this new department may take up the subject of architectural education, as recommended by progressive architects, which the Institute, the Chapters, and the architectural press have recently been discussing so extensively. It may establish colleges of architecture and other fine arts not controlled by the Trustees of the University. But as long as the feeling for cooperation continues its examinations may continue to be held at the University as has been the case for many years last past. It will be noted that one member of the examining committee must still be a member of the Faculty of the University.

The organized architectural associations are recognized in the new law. That means the Illinois Chapter of the Institute, which is a State Chapter and the Illinois Society of Architects which is also a State organization. It is on their advice and recommendation that the Director of the Department must appoint all committees for conducting examinations for license or instituting trials for violation of the law.

This reform is the result of many years of dissatisfaction with the work of the old board of examiners—though not always expressed with due regard to justice—which never was entirely free from political appointees in its membership, and which for some years last past has lacked the respect and support of the best element in the architectural profession.

As the original law was an experiment, so also is this change, to a certain extent, an experiment. It will have to be tried out practically. The architectural profession now has an opportunity to exert a direct influence upon the enforcement of the law. If it is not a success its failure may lie at the door of the architects of the state and their organizations. Both have advocated its enactment.
### STANDARD INDICATIONS OF MATERIALS FOR ARCHITECTURAL DRAWINGS

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**Diagram of Proposed Standard Indications of Materials**

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Proposed Standard Indications of Materials
FOR USE ON ARCHITECTURAL DRAWINGS

THE Standing Committee on Contracts and Specifications of the American Institute of Architects has, with the approval of the Board of Directors, had for some time under consideration standard indications for materials for use upon architectural drawings.

Such a standardization for electrical wiring, outlets, etc., adopted by the National Electrical Contractors’ Association and approved by the Institute, is now generally in use and has proved of advantage to contractors, engineers, architects, and draughtsmen. Well-designed standard indications for building materials should, in their larger field, be of even greater advantage to all concerned.

A scheme for such indications was prepared for criticism by the Standing Committee a year or more ago, but of late the work has been in the hands of a subcommittee of which Mr. J. A. F. Cardiff is chairman. The first tentative form prepared by the subcommittee received the criticism of many architects, out of which has grown a second tentative diagram, now published in the Journal in the hope that architects and draughtsmen may express their opinions as to the suitability of the proposed symbols.

The subcommittee accompanies its tentative diagram with the following comment:

“The only changes from the earlier draft are with respect to the first three indications, No. 1 being revised and Nos. 2 and 3 being definite indications in place of the alternatives originally shown. These changes are the result of the criticisms elicited by the circulation of the earlier forms. The rest of the indications received favorable comment from a large majority and have therefore been retained, but the minority recommendations will be outlined hereinafter.

“Scope.
Indications have been provided only for such materials, mainly structural, as are ordinarily shown on the working drawings by some method of hatching, stippling, or poché. The materials which constitute the “interior finish” have been omitted on the ground that they are matters for the specification or for a schedule or synoptic form accompanying either the drawings or the specification.

“The subcommittee believes that materials in elevation can best be indicated, both as to kind and extent, by lettering, and this is the consensus of opinion of those who criticised the first form. While no other indication is necessary from the standpoint of clearness, architects do frequently stipple or otherwise render the elevations to give expression to the design. This, however, rather than justifying standardization, would seem to point in the other direction—leaving the indication to the individual taste of the designer.

“In the case of alterations to existing buildings, the new work would be indicated as in new buildings. For the existing work which remains undisturbed and for existing work which is to be entirely removed, indications were suggested in the criticisms of the first draft, but they were not indications of materials. It is our belief that there is little or no need for indicating the materials of existing work in such cases, and that an indication to show only the proposed change in arrangement has no place in such an Indication of Materials.

“Indications.
Clearness, simplicity, and rapidity, and with these, some regard for the appearance of the finished drawing, should govern in determining the character of the indications. They should be of a nature such as will not be confusing under slightly differing interpretation at the hand of the average draughtsman.

“Indication No. 1 is readily differentiated from brickwork and cut stone with which it frequently comes in contact. Alternatives which were suggested are (a) freehand wavy lines, (b) a more open stippling than the cut stone indication, and (c) diagonal dotted-line hatching.

“Indications Nos. 2 and 3 have been widely used for some years. Others suggested are (a) the letter “S” in No. 2 and the letter “C” in No. 3 in place of the quirks shown, as signifying respectively, stone (or gravel) and cinders; (b) triangles in place of the circular quirks in No. 2 and (c) freehand wavy lines for No. 3.

“Indication No. 4 in actual test executed quite rapidly, and it suggests the material. An alternative proposed is diagonal dotted-line hatching.

“Indication No. 5 has long been a standard for cut stone. Two objections were made to its employment for cast stone, one contending that we should differentiate and the other that cast stone and concrete blocks should have the same indication—that which we have illustrated for concrete blocks. Another alternative suggested is diagonal hatching of lines alternating solid and dotted.

“Indication No. 6. Stippling the same as cut stone has been recommended for this.

“Indications Nos. 7, 8, 9, and 10. For these materials, which occur with the greatest frequency, the base is diagonal hatching—the simplest and quickest indication of all. The lines may be drawn through all four materials in one operation, as shown in the Application. The hollow tile and gypsum blocks are subsequently and quickly given the differentiating stipple or oval. Substitutes suggested for structural terra cotta are (a) freehand wavy lines and (b) perpendicular hatching. Substitutes for gypsum blocks are (a) freehand diagonal wavy lines, (b) perpendicular hatching with a crayon poché, and (c) stippling instead of diagonal hatching with the ovals retained.

“Indication No. 11 is designed as a time-saver for use when the partitions are the same material throughout, whether wood, tile, gypsum, or plaster, the specification establishing the material. Where there are some exceptions, as for instance hollow tile partitions about stairways with gypsum blocks elsewhere, the hollow tile would have the regular No. 9 indication and the gypsum block partitions the “standard partition” indication.
"Indications Nos. 12 to 21 inclusive need no special comment and no alternatives have been suggested in the criticism received.

"An indication which has not been made use of, for reasons both of speed and appearance, is the freehand wavy line. It has been suggested so frequently, however, for one material or another that it would seem to warrant special thought when this draft is circulated for criticism.

"Another point to which special thought should be given is the suitability of the indications for one-eighth scale drawings, for while that scale is perhaps not as frequently used as quarter scale, it is nevertheless so much in use that standard symbols should be just as applicable in its case as in that of the larger scale."

As it is obviously of importance that the Institute should adopt only a thoroughly practical system of indications the Standing Committee will greatly appreciate expressions of approval, constructive criticisms or suggestions for the improvement of the diagram. All communications should be sent to the chairman, Mr. Frank Miles Day, 925 Chestnut St., Philadelphia, not later than October first, 1917.

News Notes

National Conference Committee on the Quantity System

Mr. Sullivan W. Jones, representative of the Institute on the National Conference Committee to consider the Quantity System as a means of checking the economic waste in the present method of competitive bidding, reports that the Committee will hold its first meeting at the Octagon about the middle of October, and that of the eighteen associations invited to send representatives, ten have agreed to do so and three others have promised to take the matter up at meetings in the near future.

Wrong Methods of Advertising the Architect

At the Board meeting in September, an account of which will appear next month, the two following resolutions were adopted:

Resolved, That the Board of Directors condemns as contrary to the spirit of the Canons of Ethics the issuance by Members of the Institute of professional treatises or monographs of their work in the form of books or pamphlets, whether privately printed or published through regular channels, which are supported by advertisements.

Resolved, That the Board of Directors condemns the issuance of catalogues of architectural exhibitions which are supported by advertising, as injurious to the profession because the support so given is in the nature of a contribution which the advertiser dislikes to refuse to make, rather than a payment made for value received, and believes that those holding such exhibitions should give consideration to other unobjectionable means for financing them.

It was with some regret that the Board deemed it necessary to take explicit action in these matters, yet it felt that there still lingers a misunderstanding of the fact that advertising is today a commodity, the values of which have been pretty well established. Thus, many practices which, although never justifiable, once passed muster as a friendly contribution to this or that cause, are now frankly recognized as wrong. Advertising has become a well established business based upon sound methods of selling space, and it has been definitely determined that advertising in such catalogues or year-books has little, if any value; thus the sale of such space sets up a relationship which injures both the buyer and the seller. It is true that some societies now find themselves in a position where they must either continue the publication of an exhibition catalogue from which they derive a considerable advertising revenue, or else forego valuable educational work which they have been building up over a period of years. The Board recognizes this contingency, but believes that through careful study, some unobjectionable means of raising money can be found, and it was suggested that a conference of such societies be held in the near future for the purpose of discovering a solution of the problem.

Personal Notes

The firm of Graham, Burnham & Company has been dissolved. Messrs. Ernest R. Graham, Peirce Anderson, Edward Probst, and Howard J. White will continue the practice of architecture at 1417 Railway Exchange, Chicago, as Graham, Anderson, Probst & White.

Messrs. Hubert Burnham and Daniel H. Burnham will continue the practice of architecture in the Rookery Building, Chicago, as D. H. Burnham & Company.

Perkins Fellows & Hamilton announce the removal of their offices to 814 Tower Court, Chicago.

Mr. Edwin H. Hewitt, of Hewitt and Brown, Minneapolis, has sailed for France to assist in the Y. M. C. A. work on behalf of our troops. Mr. Edwin H. Brown of the same firm is now stationed at the Red Cross Distribution Depot at Deming, N. M.

Mr. W. M. Somervell, of Seattle, has been commissioned Major E. O. R. C., awaiting orders in Washington.

Preserving Architectural Types in the Devastated French Provinces.

"La Maison des Pays de France," the text by M. Landre Vaillat, editor of Le Temps, Paris, and 80 drawings by M. André Vente, architecte en chef des Monuments historiques, illustrates the principal types of houses in Flanders, Artois, Picardie, Ile de France, Champagne, Lorraine, and Alsace.

The Journal will be glad to secure copies of this book for its readers at the price of $2 each.
A consideration of the subject of "Plumbing" involves at once a broad human problem which takes in the health of individuals, communities, and the country at large. There will, consequently, be found in this issue reference to considerations which include, first, the source of any water-supply, then its storage or impounding, its distribution, and its purification. Next comes its utilization, which has been considered with respect to the materials and methods involved in general plumbing installations in and around all forms of human habitations. Finally comes the question of disposal of sewage and waste. Information and activities concerning all these subjects have been recorded as fully as possible within the limitations of a treatise devoted to aspects within the purview of architects and other constructionists.

INDEX TO SUBJECTS TREATED IN THIS ISSUE
(If index of materials previously treated see the General Index, page 472)

9B Public Health, Water Works, Plumbing and Other Associations.
9C1 Housing Associations and Other Volunteer Organizations.
9C2 Other Allied Interests and Influences.
9C3 Educational and Research Work.
9D Water-Supply, Storage, Utilization and Incoming Pipes.
9E Filtration and Water Treatments.
9F Heating and Cooling of Water.
9G Plumbing Installations in General.
9H Fixtures and Fittings.
9H1 Bathroom and Laundry Finishes and Accessories.
9K Sprinklers and Fire Protection.
9K2 Safeguarding Industry — A Wartime Necessity.

9A U. S. Government Specifications and Publications

1. Composed of representatives of the Treasury, War and Navy Departments, there is a Board on Uniform Plumbing Specifications. This Board has issued (March 1, 1916) a "Specification for Plumbing Fixtures, etc., for the Treasury, War and Navy Departments."

It is stated that "These specifications are published for the purpose of facilitating construction in the governmental departments concerned. They are not to be construed as prohibiting the installation of any fixture desired for a special purpose and covered in the specifications for any particular work."

These specifications consist of 177 pages of printed matter, including 53 plates showing in detail all types of plumbing fixtures and their connections. They cover general requirements for all kinds of piping and various wares, and form the basis of the specifications for each particular installation prepared by these departments. They are also used by some architects in their regular practice.

These specifications may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., at 75 cents a copy.

2. The Navy Department issues specifications for "Naval Stores and Materials," as described under 3A13; those pertaining to plumbing materials, other than the fixtures and fittings referred to above, will be found completely listed in the "Index to Specifications" (3A1a).

3. For publications by other governmental departments concerning materials, devices, and workmanship pertaining to hydraulics and sanitation, see the listings under the different subdivisions.

9B Public Health, Water Works, Plumbing, and Other Associations

9B1 American Public Health Association
Secretary: Salskar M. Gunn, 126 Massachusetts Ave., Boston.

Publications:
(a) "American Journal of Public Health."
(b) Also, "Standard Methods for the Analysis of Water, Sewage, Air, and Milk."

Its objects are to protect and promote public and personal health. The Association has seven sections: Laboratory, Public Health, Administration, Vital Statistics, Sanitary Engineering, Sociological Industrial Hygiene, and Food and Drugs.

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THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Causes of Iron Rust in Domestic Water-Supply; on House-Traps; on Standardization of Brass Goods; on U. S. Standards with respect to Plumbing Installation in Government Buildings.

9B3 Water Works Associations

Of great importance are the results accomplished by organizations formed to advance the design, construction, operation, and management of water works. These include:

9B3a American Water Works Association
Secretary: J. M. Diven, 47 State St., Troy, N. Y.
Publications:
A joint committee is now at work on revisions of these standards.
Other committees working on subjects of interest to architects and constructors are those on: Electrolysis, Standard Specifications for Wrought Iron Pipe, Plumbing Code and Control of Plumbers, City Planning, and Private Fire Protection Service.

9B3b New England Water Works Association
Secretary: Willard Kent, Narragansett Pier, R. I.
Publications:
3. Index. Lists articles, papers, and other information contained in "The Transactions," from 1883 to 1885, and in the Journal from Volume I to date.

9B3c Water Works Manufacturers' Association
Secretary: E. K. Sorenson, 15 Broad Street, New York City.
Issues no publications.

9B4 National Association of Master Plumbers of the U. S.
Organized 1883.
Secretary: A. A. Zettanna, 4337 Manchester Ave., St. Louis, Mo.
Publications:
(a) Convention Proceedings, published annually. Aims to establish harmonious and equitable relations between master plumbers, hydraulic and sanitary engineers, journeymen plumbers, and other employees, and manufacturers and jobbers in supplies used in plumbing, heating, gas-fitting and the drainage business; to educate apprentices in plumbing and to establish an apprenticeship system; and to promote the standardization of fittings and other plumbing goods.
This Association, together with the National Association of Master Steam and Hot Water Fitters, was represented in a joint conference in November, 1913, with the American Institute of Architects to consider the advisability of the direct letting of mechanical equipment contracts, which resulted in the adoption by the Institute of the resolution quoted under 9Ga.

9B5 Cast Iron Soil Pipe Makers' Associations
Eastern Soil Pipe Association
Secretary: Chas. F. Tuttle, 269 Clinton Ave., Brooklyn, N. Y.
Southern Soil Pipe Association.
Secretary: M. W. Bush, Birmingham, Ala.
Publications:
(a) "Complete Specification for Cast-Iron Soil Pipe and Fittings."
(b) "A Nationwide Comparison of House-Drainage Piping."
(c) "Cast-Iron Soil Pipe vs. Wrought Pipe—For House-Drainage."
(d) Numerous reprinted technical papers pertaining to house-drainage piping.
Copies of any of the above will be sent upon application.
The chief object of these Associations is to standardize the manufacture of all extra heavy cast-iron soil pipe and fittings so that a single specification covers the product used by all consumers. These specifications are for adoption in Federal and municipal plumbing rules or regulations and cover in detail the weights of fittings as well as pipe, the quality of iron used in pipe, testing of pipe, marking, dimensions and radii of bends, hubs, etc. Another object of these Associations is to promote sanitation by the use of cast-iron soil pipe for all house-drainage, that is for house-sewers, house-drains, soil-tacks, vents, and leader lines.

9B6 American Concrete Pipe Association
Secretary-Treasurer: J. H. Libberton, 210 S. La Salle St., Chicago, Ill.
Publications:
(a) Proceedings of Annual Conventions, containing papers and discussions on all phases of the manufacture, use, and application of cement sewer pipe and drain tile.
This organization is composed entirely of men who are interested in concrete sewer pipe, irrigation pipe, and drain tile, either as manufacturers of the pipe itself or as manufacturers of equipment for making such pipe.
The Association cooperates with the A.S.T.M. and other organizations in the formulation of standard specifications.

9B7 The Sewer Pipe Manufacturers' Association
Publications:
(a) "Vitrified Clay Pipe." 32 pp., illus. Contains description of Salt Glazing, Results of Tests, and Specifications for Sewer Pipe and the Laying of Sewer Pipe.
(b) "About Culverts." 32 pp., illus. Contains Basic Principles, Types, Definitions, Sizes, Costs, Diagrams and Culvert Design, the latter by F. K. Shagley from Proceedings of Ohio Engineering Society.
(c) "Clay Products for Building Construction." 32 pp., illus. Concerns Vitrified Clay Pipe for House Drains, Wall Copings, Flue Linings, and Fire Clay Chimney Tops, and contains Building Code Suggestions and diagrams from publications of the N.B.F.U. and the N.F.P.A.
This Association was formed for the purpose of promoting the welfare of the sewer pipe industry and to the end that the public might be more fully informed as to the adaptability of vitrified clay pipe and other clay products and as to the best manner of using them.
A committee is now working on the subject of standardized practice with respect to the manufacture and laying of sewer pipe.

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The importance of good sanitary standards is becoming generally recognized, but the old easy distinction between what is necessary for me and what for the other fellow still makes necessary a great amount of educational work. In our progressive cities the operative builders find it so difficult to sell or rent new houses without sanitary toilets and even bathtubs, that they themselves often build the sewers.

This applies not only to expensive houses for the well-to-do, but, in some cases, even to the less expensive for the wage-earner. In cities where it is the policy for the municipality to pay all or a considerable proportion of the cost of sewer-extension out of general funds, as in Philadelphia, the builder of wage-earners' houses, who must work on the smallest possible margin, is between two influences. He cannot build sewers at his own expense entirely and yet compete with the builder on a city-sewered street; he cannot sell his houses unless he at least holds out a promise that they will have modern sanitary conveniences, as in Savannah, Ga., and Mt. Vernon, N.Y. Washington has reached almost as high a standing. In New York City practically all the tenement houses are equipped with sanitary water-closets, and an increasing proportion have bathtubs. In Baltimore, where a new sewer system and disposal had been completed, it is proposed to require that every dwelling in the city shall be sewer-connected, and it is already required that every new house containing four or more rooms shall have a bathtub with all necessary supply and waste pipes.

Even in Philadelphia, where past neglect has permitted the development of very unsanitary conditions, there has been notable progress in recent years. According to the official figures more than 8,000 privy vaults are being abandoned annually and sanitary water-closets installed in their places. Were it not for the building of new vaults on unsewered streets, Philadelphia might look forward with confidence to the end of this menace within a few years, despite the opposition of some owners and the slowness of sewer construction in the oldest districts. In these districts there are still approximately 30 miles of unsewered streets. Illustration of the worst of them is a dead-end segment of Spring Street near the Delaware River. Spring Street at this point is only about 12 feet wide. Opening off it is a court where stands an old house on the site occupied by Benjamin Franklin's home in 1748. The houses here are packed so closely together that in some cases it has been necessary to make a two-story privy to provide for four houses. The Bureau of Surveys does not wish to put such dead-end streets on the city plan because they should not be perpetuated. Unless a street is on the city plan, sewer extension can not be compelled. Some of the owners—amid these resident owners—do not wish the expense of sewer extension and connections. The city has not the power and there is as yet no public opinion in favor of clearing and replanning such an area.

It is with such complicated situations as this that housing workers in the older cities have to deal. Considered individually such situations are almost hopeless; only the slow and uncertain extension of business and industrial areas can wipe them out. But we are getting beyond the individual situation to the development of city-wide policies in city planning and building. This has some of the charm of the individual effort. Considered collectively such efforts have a definite and practical result. It is with this ideal in mind that we have written the story of what has been done in Philadelphia in recent years. In general terms, it may be said we are attempting to force the building of sewers on the site occupied by Benjamin Franklin's home in 1748.

So the sanitary problem of the new house seems to be nearly settled with the acceptance of a sound public policy backed by the continued interest of those most directly interested. But this very acceptance of a public policy for new houses makes more difficult the problem of the old house in the poorer districts of our large cities in the East. Here are large areas where houses were built long before modern sanitation began, before the modern water-closet had been invented, before the stationary bathtub had been thought of. In these houses the operative builder has considerably less than no interest—they compete with his new houses, and he is quite willing that they should not be made more attractive than their central location inevitably makes them. Moreover, where the city pays all or a considerable part of the cost of sewer extension, there is such competition for a share in the appropriations that these rarely suffice to go around. The owners of the old houses are frequently indifferent. To begin with, they often have a backward-looking instead of a forward-looking habit of mind. They have inherited the old habit of mind that lies our main hope and to that we are led by our desire to improve the sanitation of the individual house.

Plumbing...
has wide ramifications. The well-to-do recognize its importance for themselves. The more ambitious of the wage-earners are willing to sacrifice time and carefare to secure it for themselves. Public opinion recognizes its desirability in a general way but has not yet become convinced of its necessity for the immigrant and the unskilled laborer.

To show this necessity is one of the tasks of housing associations and committees. New York, because it first developed intolerable conditions, was the first to make serious efforts for their reformation. It has had housing, or tenement house, committees for many years. The present committees of the Charity Organization Society and of the Brooklyn Bureau of Charities are very active organizations, and to the former New York owes its present tenement house law, enacted in 1901. Philadelphia, Boston, Pittsburgh, Washington, Chicago, and other large cities long ago organized committees or conferences to work for better sanitation and housing. The first of these had their inception among people interested primarily in social work among the poor, for to them came first-hand knowledge. But of late years chambers of commerce and other organizations have taken up the work because of its direct effect upon the continued prosperity of the community. Philadelphia was the first city to establish an independent housing association which should deal with all phases of the question and coordinate the work of all other agencies so far as they touch housing. This the Association's independent position has enabled it to do much more effectively than could a committee of an organization having other interests. There are now nearly seventy agencies in Philadelphia cooperating with the Housing Association by reporting to it the unsanitary conditions they find in the course of their work. Among these are hospitals, social settlements, local improvement societies, and such business organizations as the Chamber of Commerce.

The organization of the Philadelphia Housing Association in September, 1909, preceded by a few months that of the National Housing Association, which has had a great influence in stimulating interest throughout the country. Its annual conferences have been of great educational value. Largely as a result of its work there are now more than a hundred cities in which there are active organizations. Most of these are committees of charity organizations, chambers of commerce, city clubs, or improvement associations. But several cities are progressing beyond this stage to that of the independent association which can devote all its energies to housing and can more effectively combine the housing work of other committees. Among these are Chicago, Cincinnati, and Pittsburgh. There are several state organizations, like the Pennsylvania Housing and Town Planning Association, the Indiana Housing Association, and the New Jersey Housing Association, besides committees of such state organizations as the Massachusetts Civic League. These hold annual conferences. Even in the national field housing has been recognized by the National Conference on City Planning (now the City Planning Institute) and by the National Real Estate Association, which has a housing committee.

In addition, there are in a number of cities housing companies that build and manage improved wage-earners' dwellings on a limited dividend basis. Some of the earliest of these, as is so often the case in first attempts, have ceased operations or have failed to live up to their promise. The Octavia Hill Association, however, has enjoyed a housing work of other organizations. Among these are Chicago, Cincinnati, and Pittsburgh. There are several state organizations, like the Pennsylvania Housing and Town Planning Association, the Indiana Housing Association, and the New Jersey Housing Association, besides committees of such state organizations as the Massachusetts Civic League. These hold annual conferences. Even in the national field housing has been recognized by the National Conference on City Planning (now the City Planning Institute) and by the National Real Estate Association, which has a housing committee.

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Other conspicuous companies of this character are the City and Suburban Homes Company in New York City, the Sanitary Housing Company and the Sanitary Improvement Company in Washington, D. C., the Model Homes Company in Cincinnati, Ohio, the Woodlawn Company in Wilmington, Del., and the Improved Dwellings Company, in Brooklyn, N. Y. (See the pamphlet referred to under 9L39 which lists these companies, village improvement associations, and others.)

In all these developments the installation of sanitary conveniences is a conspicuous feature, as is evidenced in the names of some. While the later companies do not lay the emphasis upon sanitation that the older ones did, this means not that sanitation is considered less important, but that it has become so generally understood as not to require emphasis. The greatest single motive for this work, as in that of the increasing number of industrial villages now being built by the large corporations, is to provide sanitary dwellings for the wage-earner.

The increasing interest in this question is shown by the growing number of reports describing conditions in our cities. Illustrative of these are the reports published under the auspices of the Russell Sage Foundation on Springfield, III., Topeka, Kan., and Ithaca, N. Y., dealing with public health and with housing, and such independent reports as those on housing in Providence, R. I., Grand Rapids, Mich., Minneapolis, Cleveland, which concern themselves largely with sanitary conditions and methods for their improvement.—John Ihlder.

[Editor's Note.—In certain reports which will be found mentioned under the various subdivisions, particularly under 9G, references are made to the subject of sanitation and public health and to constructional work in connection therewith. Among these are: The Annual Reports of the Director General of the International Health Commission to the President of the Rockefeller Foundation; the Annual Reports of the Department of Engineering, City of Hartford, Conn., and others.]

9C2 Other Allied Interests and Influences

The American Ceramic Society, mentioned under 3C1, is an important factor in the development of porcelain and vitreous ware used in plumbing, in addition to which there are many state or local clay working associations which hold meetings and conventions.

There is record of the National Organization of Health Officials and also of the Confederated Supply Association, the latter representing the various associations of plumbing supply dealers, both of which are referred to under 9Gb.

There is also record of the Enamed SanitaryWare Manufacturers' Association, concerning which no information has yet been obtained.

There is also the American Institute of Metals and the National Association of Brass Manufacturers and others which are interested in metal plumbing accessories. These will be described later under Metal Products.

For description of the Range Boiler Exchange see 9F1.

There are, of course, "labor organizations" of the artisans, mechanics, and others employed upon the various branches of the work embraced within a plumbing installation, an activity of one of which is referred to under 9K1.

9G3 Educational and Research Work

In the colleges, technical and other institutions of the country instruction in hydraulics and sanitation is being cared for. A list of many of such, including those wherein branches of the A.S.M.E. are located, is given under 1B3.

A practical indication of interest from without was manifested when recently awards were made of the Nelson Prizes in Plumbing. These were presented through the
courtesy of the Cast Iron Soil Pipe Makers Advertising Association for the best papers on the "Practice or Theory of Plumbing" prepared by any student or instructor in Harvard and other colleges. The Massachusetts Institute of Technology, or by any student or instructor in other institutions of learning who had had training in the theory or practice of house-drainage. The Chairman of the Committee in charge of the awards was George C. Whipple, Professor of Sanitary Engineering, Harvard University, and the prizes were named for O. N. Nelson, a manufacturer of plumbing supplies who has devoted himself to the general improvement of living conditions.


A new contest similar to the one just completed, but involving awards approximating $750, is planned for the ensuing year.

9D Water Supply, Storage, Utilization and Incoming Pipes

Many publications are issued dealing with investigations and developments in connection with hydraulics, public water supplies, reservoirs, standpipes, pumping equipment, and other phases of this subject. These are also treated in the leading pocket-books, handbooks, and other literature prepared for the use of architects, engineers, and constructionists. Independent private water supplies will usually be found treated in the publications of the manufacturers which specialize in their production and installation. Much attention has been given to the development of standards in the manufacture of water pipes by associations and societies whose activities are elsewhere referred to and the results of which are listed under this heading and under those subdivisions which follow pertaining to water. The subject of trenching for and laying of pipes has been carefully studied, the interest in which is confined not alone to water or incoming pipes but to drains or outgoing pipes. In other ways the subjects of water-supply and drainage are interlaced and so closely related to the public health that the references under 9L which treat of outgoing pipes should also be consulted.

For Tanks, Reservoirs, and Tank Supports, being Regulations and Standards pertaining to these subjects, see April Journal 4D9.

1. The U. S. Geological Survey (2A1h) has published about 400 reports on various phases of water-supply and conditions likely to be met with in different parts of the country.

2. The U. S. Bureau of Mines (2A5j) has issued:
   (a) Technical Paper 33, "Sanitation at Mining Villages in the Birmingham District, Ala." (G16e), contains a section on "Water Supply."
   (b) Bulletin 87, "Houses for Mining Towns" (G1t), contains sections on "Responsibility for Water Supply and Sources of Water Supply."

3. The U. S. Reclamation Service issues:
   (a) List of Publications, No. 3, 1916. In same will be found many references to reports and bulletins on water supplies, farm plats, and town sites, including maps, specifications and drawings which may be had upon application to Arthur P. Davis, Director and Chief Engineer, 211 First St., Washington, D. C., or the Superintendent of Documents, Government Printing Office, Washington, D. C.
   (b) "The Reclamation Record," a regular bulletin of service, issued monthly and contains many illustrated articles.

4. Read the "Abstracts of Transactions and Proceedings" and other publications of the American Water Works Association, The N. E. Water Works Association, and other publications issued under 9B for references to complete libraries of information on the subject, not alone of water, but of all appurtenances and allied subjects.

5. See "Review of Current Technical Literature" and Journal of the A.S.M.E. for information on all phases of this subject. Also reports of committees in that Society on Filter Standardization. The publications of the Massachusetts Institute of Technology, Cambridge, also Standards recommended in reports of committees received by the Council of the A.S.M.E. (Serial No. 10.) as follows: (a) Special Reports on Standard Pipe, Pipe Threads, and Pipe Unions.

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(b) Separate Reports on Standard Threads for Hose Couplings, Standard of Pipe Flanges, Fittings, and Bolting.
(c) The American Standard for Pipe Flanges, Fittings, and Bolting.


7. "Reservoirs," by James D. Schuyler, 573 pp., illus., contains sections on Domestic Water Supply, Types and the Methods, Plans, and Cost of Their Construction; also Distribution, Application, and Use of Water and the Rainfall and Runoff from various Watersheds.


18. "Water Power Engineering," D. W. Mead, 843 pp., illus. Covers the theory, investigation, and development of water power and presents fully the details of the entire engineering problem from the first investigation to the complete plant.

19. "Mechanical Equipment of Federal Buildings," Chapter IV (G01-), contains a section on Water Supply, with information as to service installations and data on sizes and kinds of service pipes and branch water-supply pipes.

See, also, p. 384 of this book for Table of Capacity of Cylindrical Tanks.
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33. See "Sanitation of Public Buildings" (G64), Wm. Paul Gerhard, for information relating to water supply and utilization.
34. See "Water Supply, Sewerage, and Plumbing of Modern City Buildings" (G65), by Wm. Paul Gerhard, for information on Domestic Water Supply, The Supply of Large Modern Buildings, and other data.
36. The Sanitation, Water Supply and Sewage Disposal of Country Houses" (G67), Wm. Paul Gerhard, dwells upon the sources of water, various modes of raising and storing water and its distribution, and gives detailed advice on how to obtain a satisfactory supply.
37. See "Architects' & Builders' Pocket Book" (G68), E. F. Kidder, for information on Private Water Supply Pumps, Construction of Cylindrical Wooden Tanks, Capacity of Tanks, Windmills, Fire Streams.
38. See "Dissertation and Plumbing" (G69), A. H. Shaw, contains water supply information in Part II.
39. See "Sanitary Plumbing and Drainage" (G71), J. W. Hart, contains a section on water supply.
42. See Tables of Capacity of Rectangular Tanks, Cylindrical Tanks, Cisterns, etc., see "L.S.C. Building Trades' Handbook," pp. 296-403.
45. "Water Pipe and Sewer Discharge Diagrams" (with tables and charts), T. C. Ekin. These give the discharges in cubic feet per minute of every inch diameter of pipe from 3 to 48 inches.

9E Filtration and Water Treatments

The subject of water purification is covered in the foregoing principal division but the following are listed separately for their special interest in this connection.

3. Waterworks Discussion and Distribution" (G73), A. D. Flink, contains information on Equipment for Treating Water, Water Softening, and Filtration.
4. Elements of Sanitary Engineering (G74), M. Merriman, contains information on Water and its Purification, Water Filtration at Philadelphia, and Water Filtration at Little Falls, N. J.
5. "Water Works for Small Cities and Towns" (G75), J. Goodell, contains a section on "Clarification and Purification of Water.
6. American Civil Engineers' Pocket Book" (G76), Mansfield Richey, contains a section on "Purification of Water" and "treats of Auxiliaries, Methods, Sedimentation, Sand for Filters, Sand Ejectors, Mechanical Filters, and Results of Filtration.

9F Heating and Cooling of Water

The same note as made under 9E as to these subjects being also covered in the main division 9D applies here. The heating of water by gas was fully treated in the July Journal under subdivision 7K.

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connected and which will be referred to under a separate heading in the October Journal, Serial No. 10.

1. "Mechanical Equipment of Federal Buildings," Chapter IV (6G1), contains material on "Refrigeration," while articles on "Cooling Tanks, Cooling Coils, Circulating Pump, Circulating Lines, Drinking-Water Fountains and Faucets, Methods of Calculation of Live Steam," "Buildings for Live Steam," "Amount of Water Calculated," in addition to various tables, an example of the actual figures used in estimating plant in one of the larger buildings is given. Included in the above Chapter is a typical specification for a Drinking-Water System, which is the uniform type used by the Superintending Architect's office.

2. In "Mechanical Equipment of Federal Buildings," pp. 124, 135, is information on Exhaust and Live Steam Heaters for heating of water, and on pp. 159-161 are data on heating of water by gas and by coal for storage and circulating systems with calculations for the amount of outlets and fixtures.

3. "Inexpensive Plumbing for Farm Kitchens," W. E. Etherton. Illustrates a set of blueprints showing range boiler connections and hot-water circulation put in under all possible conditions. Full notes and suggestions accompany each print.

4. "Hot Water Circulation," R. M. Starbuck. Illustrates a set of blueprints showing range boiler connections and hot-water circulation put in under all possible conditions. Full notes and suggestions accompany each print.

5. See "Architects' & Builders' Pocket Book" (9G2), F. E. Kidder, for information on Instantaneous Water-Heaters, An Automatic Water Heater, and Heating Water with Steam Coils. Also, see section on "Mechanical Refrigeration" for information on Water and Milk Cooling.


7. See Starbuck's "Range Boiler-work, Hot Water Supply, etc."


11. See "Miners Wash and Change Houses" (6J4).


14. For further descriptive matter and illustrations pertaining to subjects covered by this heading, see the following pages in the Industrial Section:

(b) Removal of Discoloration from Hot Water, Loomis-Manning Filter Distributing Co., p. xvii.

9F1 Standardization of Range Boilers and Others.

While the Code of the A.S.M.E. (referred to under Serial No. 10) for the "Construction of Steam Boilers and Other Pressure Vessels and for Their Care in Service" covers the manufacture of steel-plate hot-water boilers over 60 inches in diameter, or where the grate area exceeds 10 square feet and the maximum allowable working pressure exceeds 50 pounds per square inch, there appears to be a noticeable lack of uniformity in the gauge of metal and sizes of boilers manufactured for domestic purposes or use in small installations.

The words "standard" and "heavy" are used extensively though the resultant products seem to vary according to various manufacturers' interpretations of these terms.

Realizing the great need of standardization in the range boiler industry in respect to capacities, dimensions, and guarantees, nine manufacturers organized The Range Boiler Exchange, with A. A. Ainworth, Secretary, 17 Battery Place, New York City, and on March 14, 1916, issued a pamphlet, "Regulations Governing the Sale and Installation of Range Boilers as Adopted by The Range Boiler Exchange." This gives a list of sizes, capacities, and approximate prices of range boilers and expansion tanks, describes standard tappings and guarantees, and gives recommendations for the successful and economical installation of range boilers and expansion tanks.

The State of Massachusetts adopted, as revised to take effect July 1, 1916, Senate Bill No. 395 relative to the capacity, working pressure, and manufacture of range boilers, requiring that all vessels or tanks in which water is to be heated under pressure in the Commonwealth is to have stamped thereon its capacity, the maker's name and guarantee that it has been tested to not less than 200 pounds' pressure to the square inch. Notwithstanding the above, there is room for improvement in the matter of standardization, so that range boilers, expansion tanks, storage, pneumatic, and other tanks, may be specified with an exactness that will secure equitable conditions in estimating and the installation of the article intended.

9G Plumbing Installations in General.

Under this heading will be placed those reference works and other publications which cover the whole subject fully. For convenience many of them, or sections from them, will be found mentioned also under the various subdivisions wherever the references are especially applicable or significant.

The subject of Piping Buildings for Gas, usually associated with plumbing installations, was treated under Serial No. 7 in the July issue of the Journal.


3. In "Mechanical Equipment of Federal Buildings" will also be found the following information: p. 383, Table of Standard Dimensions of Wrought Iron and Steel, Steam, Gas and Water Pipes; p. 388, Table giving Velocity of Flow of Water in feet per minute, through pipes of various sizes, for Varying Quantities of Flow; p. 389, Table giving Loss in Pressure Due to FRICTION in Pipes under various dimensions, for Pipe 100 Feet Long; p. 392, Table of Pressure in Inches of Water; p. 392, Table of Pressure in Inches of Water; p. 397, Table of Weights of Galvanised Steel for Various Lengths of Pipe Lined Fittings.


Part I deals with Hospital Sanitation including: Disinfecting Station, Garbage Disposal, Bibliography.

Part II: Theater Sanitation, Ventilation, Lighting, Bibliography.


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27. The Specifications for Construction of a Standard Building of the N.P.A. (3A341) state, "The lowest floor of the building shall be drained to a sump chamber, which is provided with adequate facilities for removing surplus water therefrom.


29. See publication of the N.P.A. entitled, "Frozen Water-Pipes: A Winter Hazard."

30. N.P.A. "Index" (3A341) contains references to information on Pipe and Standardization of Pipe and Pipe Fittings.


33. For papers and lectures in connection with materials, methods, and devices used in plumbing installations, see the Index to the Library of the Franklin Institute, of the state of Pennsylvania.

34. See Index to "Leak Data Sheets," classification (1) Civil, and (2) Mechanical, for information on Cast-Iron, Wrought-Iron, and Steel Pipe; Pipes and Tubes of Copper, Brass, Lead, Tin and Aluminum; Vitrified, Wooden-Stave and Concrete Pipe; Fittings for Wrought-Iron and Steel Pipe; Valves; Pipe Supports; Pipe Coverings; numerous diagrammatic illustrations and tables of sizes and weights.


38. The Specifications for Construction of a Standard Building of the N.P.A. (3A341) state, "The lowest floor of the building shall be drained to a sump chamber, which is provided with adequate facilities for removing surplus water therefrom.


40. See publication of the N.P.A. entitled, "Frozen Water-Pipes: A Winter Hazard."

41. N.P.A. "Index" (3A341) contains references to information on Pipe and Standardization of Pipe and Pipe Fittings.


44. For further descriptive matter and illustrations pertaining to subjects covered by this heading, see the following pages in the Industrial Section:

(a) "An Investigation of Pipe Corrosion in 135 Apartment Build-

(b) "Crane Drainage Fittings," Crane Co., p. x.

(c) "Cast Iron Soil Pipe Fittings," A. M. Byers Co., p. x.

(d) "White China Pipe Escutcheons," The Fairfacts Co., p. x.

9Ga Separate Letting of Contracts

A committee of the American Institute of Architects, known as the Committee on Conference with the National Association of Master Plumbers and the National Association of Master Steam and Hot Water Fitters, held meetings with the joint committee represented by those two organizations in 1913. As a result of such conference the Committee recommended to the American Institute of Architects the adoption of the following Resolution, which was formally adopted by the Convention of 1913 at New Orleans:

Resolved, That the American Institute of Architects, in convention assembled, recommends to the members of our profession the adoption of the practice of direct letting of contracts for mechanical equipment, such as heating apparatus, plumbing and electrical equipment. This recommendation is based on the conviction that direct letting of contracts, as compared with subletting through general contractors, affords the architect more certain selection of competent contractors and more efficient control of execution of work, and thereby insures a higher standard of work, and, at the same time, more equitably the financial interests of both owner and contractor.

9Gb Notes on Standardization of Cast-Iron Soil Pipe and Fittings

From a paper by Harry Y. Carson

For years, in fact since the New York City Plumbing Code of 1881, there have been specifications and requirements in all plumbing regulations governing the weight
and wall thickness of soil pipe; but there have been no such specifications, until recently, which regulate soil-pipe fittings.

It is almost impossible in foundry practice to prevent a variation in individual pieces of as much as % inch, and with the class of pipe known as "standard" calling for a wall thickness of but % inch, when we consider this possible variation, we are confronted with the very real danger which must exist in pipe having a wall thickness at any point of % inch.

In the casting of extra-heavy pipe with a wall thickness of % inch, while the same variation is both possible and permissible, the factor of safety is far greater, for the wall of the pipe should not, with the observance of high standards in foundry practice, be less than % inch—ample protection against leakage in the finished stack. That the leakage of gases of every nature is considered harmful is evidenced by the regulations adopted by all cities with respect to the test which must be applied to all plumbing prior to its approval by the plumbing inspectors, and it is not only sewer gas which may escape through the use of light wall pipe, but illuminating gas which enters the sewers through leaks in the gas mains.

That a specification for soil-pipe fittings, regulating not alone the weight of each fitting but its wall thickness, radii of bends, calking room, depth and thickness of hubs, and other essential dimensions, has long been needed is manifest by the efforts that have been made and the able work that has been accomplished in this direction during the past six years. A very desirable standard for soil pipe and fittings is now in existence, and it is being adopted in the larger cities of the United States. This standard is known as the "Naco" specification for soil pipe and fittings.

In 1911 a committee made up of sanitary engineers, jobbers of plumbing supplies, plumbing inspectors, and others familiar with trade conditions were delegated to report on this subject to the American Society of Sanitary Engineering.

A report of the Committee on Organization and Functions of Municipal Health Departments given in the Public Health Officials' Section of the American Public Association, Jacksonville, Fla., December 2, 1914, as reported on page 1258 of Vol. V (December, 1915) American Journal of Public Health, states:

Whereas, The National Committee of Confederated Supply Associations, representing the various associations of plumbing supply dealers, adopted, July 11, 1912, specifications called Naco specifications for the standardization of extra-heavy soil-pipe and fittings, and

Resolved, That Naco specifications be adopted by this Society as its standard for extra-heavy pipe, and that it be further

Resolved, That the Society, through its members, use their best efforts toward the adoption of this standard in the plumbing regulations of municipalities where they have influence, and also assist in the extension of the use of such pipe and fittings which comply with the standard hereby adopted.

That no manufacturer had, prior to 1911, adopted any fixed standard for making up soil-pipe fittings is apparent from the table shown in the report. In fact, there are many instances where patterns become so confused that fittings marked "extra heavy" are actually of lighter weight than those marked "standard."

A study made of plumbing codes from some 200 of the leading cities in the United States revealed the fact that no attempt had as yet been made by boards of health or other proper authorities to regulate the dimensions and weights of soil-pipe fittings. It was therefore only natural that the chaotic condition shown by the above table should exist. A chief reason for the lack of standardization has been that under the highly competitive conditions in the soil-pipe business this situation has resulted in the marketing of fittings of the lightest possible weight. Such fittings are necessarily fundamentally weak, of bad design, and a practice permitting this, while it demands pipe of % inch wall thickness, is ridiculously inconsistent. The stack is no safer and no more sanitary than the lightest and weakest fitting.

At the present writing it can be stated that all necessary progress has been made in creating the standard of weights and dimensions for extra-heavy soil-pipe fittings, so that now fittings can be furnished of such proportions as to correspond to the wall thickness and strength of extra-heavy pipe; yet, there persists today a lax attitude in many of our cities with regard to the advantages to sanitation and economy that follow the adoption of this standard. On the other hand, some of the larger and more progressive communities, such as Cleveland, Ohio, Portland, Ore., and the state of Wisconsin have not been slow to see those very real advantages which do come. Consequently these localities have passed laws that are now in effect and require that the extra-heavy fittings shall conform to the Naco specifications.

Recognizing that such inertia persists in many of our municipal governments, the American Society of Sanitary Engineering prepared and adopted, at its 1914 convention in Minneapolis, Minn., a resolution for the attention of those who influence plumbing and sanitary legislation. This resolution, as it appears in the Annual Proceedings of the Society, reads as follows:

WHEREAS, The National Committee of Confederated Supply Associations, representing the various associations of plumbing supply dealers, adopted, July 11, 1912, specifications called Naco specifications for the standardization of extra-heavy soil-pipe and fittings, and

Resolved, That Naco specifications be adopted by this Society as its standard for extra-heavy pipe, and that it be further

Resolved, That the Society, through its members, use their best efforts toward the adoption of this standard in the plumbing regulations of municipalities where they have influence, and also assist in the extension of the use of such pipe and fittings which comply with the standard hereby adopted.

The term Naco has been given to the specification as an identification motto, and this motto in reality accredits and honors the name of the National Committee of Confederated Supply Associations, they having been the prime movers in securing data for the ultimate specification adopted.

Committee A-3 of the American Society for Testing Materials, a Society which is working for the standardizing of all engineering materials, is giving the Naco specification equal prominence with the well-known standard specification of cast-iron water and gas pipe which came originally from the American and New England Water Works Association.

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9H Fixtures and Fittings

1. In its work on the technology of clays, the U. S. Bureau of Mines has issued:
   (a) Bulletin No. 53, "Mining and Treatment of Feldspar and Other Aluminous Minerals in the Southern Appalachian Region."
   (b) Bulletin No. 92, "Feldspar Industry of the New England and Northern Appalachian States."

2. Among the numerous publications of the U. S. Bureau of Standards, the following are of interest concerning fixtures and fittings:
   (a) "Annual Report of the Director," 1916 (1A24), contains the following regarding enameled iron: "Work has been undertaken upon the study of enamels for cast iron and steel. It was first necessary to secure purity in the proper treatment of metal and the application and fusion of the ground coats and enamel. A number of excellent undercoatings and enamels have been developed, both for cast iron and steel. A study of enamels possessing maximum resistance to solution is under way."

3. The U. S. Geological Survey has issued:
   (a) A chapter on "Mineral Resources of the U. S." (1A1a), entitled "Clay Working Industries and Building Operations in the Larger Cities," a section of which is devoted to "Tile and Plumbing."

4. For detailed drawings and descriptions of all kinds of plumbing fixtures used as "standard" in Government installations, see "Specifications for Plumbing Fixtures, etc., for the Treasury, War and Navy Departments," mentioned under 9A1 and described on p. 146 of "Mechanical Equipment of Federal Buildings under Control of the Treasury Department" (G91), in which it is said: "The board which prepared this specification has produced a document remarkable for both scope and accuracy and has rendered a substantial service to sanitary engineers and to the manufacturers in this line of business. Engineers and architects who have had to hear and weigh the claims and counter claims of representatives of various plumbing-material houses will undoubtedly appreciate the relief which the standardization brings."

5. The extensive use of tile for this purpose makes it desirable to call attention to the information pertaining to the service and products of the Associated Tile Manufacturers contained on page xiv of the Industrial Section--The Fairfacts Company.

6. As of interest in connection with laundry installations, see information pertaining to Glass Enamelled Steel Laundry Chute, on page xxxii, in the Industrial Section--The Fairfacts Company.

9J Swimming-Pools, Baths, Bath and Change Houses

1. The Bureau of Mines has issued:
   (a) Technical Paper No. 33, "Sanitation at Mining Villages in the Birmingham District, Ala."
   (b) Technical Paper No. 116, "Miners' Wash and Change House.""}

2. "Mechanical Equipment of Federal Buildings," Chapter IV, contains a report on the purification of the Georgia kaolins, setting forth how this American product may be substituted for imported clays in the making of porcelain, etc., will be issued shortly.

3. Among the numerous publications of the U. S. Bureau of Standards, the following are of interest concerning fixtures and fittings:
   (a) "Mechanical Equipment of Federal Buildings" (G91), by H. L. Alt, note Chapters V, VI, VII, and VIII, as of interest in connection with fixtures and fittings.

4. "Modern Sanitary Engineering" (P90), contains information regarding Water-Closets, Flushing Cisterns and Pipes, Urinals, Baths, Lavatory Basins, Sinks, Tube, and other fixtures.

5. "Sanitary Plumbing and Drainage" (G91), J. W. Hart, contains data on Baths and Fittings, Lavatories, Sinks, and other fixtures.

6. "How to Drain a House" (G91), G. E. Waring, treats of Plumbing Appliances, Wash-Stands, Water-Closets, Sinks, and other fixtures.


8. For developments in the art of ceramics, which include the manufacture of porcelain and vitreous water-closets, see the publications of the American Ceramic Society, listed under 9C1, including "A Bibliography of Clays and the Ceramic Arts" (9C1A).


10. See "Sanitary Engineering of Buildings" (G1A), W. P. Gerhard, for information on Plumbing Fixtures, and The Proper Arrangement of Water-Closet and Bath Apartments.

11. "Mechanical Equipment of School Buildings" (G91), by H. L. Alt, note Chapters V, VI, VII, and VIII, as of interest in connection with fixtures and fittings.

12. "Modern Sanitary Engineering" (P90), contains information regarding Water-Closets, Flushing Cisterns and Pipes, Urinals, Baths, Lavatory Basins, Sinks, Tube, and other fixtures.

13. "Sanitary Plumbing and Drainage" (G91), J. W. Hart, contains data on Baths and Fittings, Lavatories, Sinks, and other fixtures.

14. "How to Drain a House" (G91), G. E. Waring, treats of Plumbing Appliances, Wash-Stands, Water-Closets, Sinks, and other fixtures.


17. "F. C. Building Trades' Handbook" (G94), gives information and tables on the sizes of fixtures.

18. See reports of committees of the American Institute of Metals and of the National Association of Brass Manufacturers on standardization of metal plumbing accessories.

19. For further descriptive matter and illustrations pertaining to subjects covered by this heading, see the following pages in the Industrial Section:
   (a) Kohler Enameled Ware Tubs, Lavatories and Sinks, Kohler Co., pp. xvii-xviii.
   (b) "Impervio" Vitreous China and "Ideal" Solid Porcelain Tub, Lavatories and Water-closets, The Trenton Potteries Co., p. 31.
   (c) "Pembroke" Built-in Baths, Standard Sanitary Mfg. Co., p. xii.

9H Bathroom and Laundry Finishes and Accessories

Of much interest in connection with plumbing installations is the finish of the walls and floors in any bathroom, toilet, and other place given over to similar use.

1. The extensive use of tile for this purpose makes it desirable to call attention to the information pertaining to the service and products of the Associated Tile Manufacturers contained on page xiv of the Industrial Section--The Fairfacts Company.

2. As of interest in connection with laundry installations, see information pertaining to Glass Enamelled Steel Laundry Chute, on page xxxii, in the Industrial Section--The Fairfacts Company.
The following letter from the Chairman of the Institute Committee on Materials and Methods is printed as of interest in connection with this subject.

9K Concerning Underground Piping for Sprinkler Installations  

To the Structural Service Department of the Journal of the A.I.A.:  

July 19, 1917.

I have received from the United Association of Plumbers and Steam Fitters of the United States and Canada a communication addressed to the members of the American Institute of Architects and signed by Mr. John R. Alpine, the General President of this Association. The letter states, among other things, that:

"For many years you have been disturbed because of industrial conflict arising in connection with your building operations, and with which you have shortly also been concerned, but which caused you builders, owners, and the public generally much discomfiture and great loss of money because of stoppage of work. The industrial disturbances referred to are commonly known as jurisdictional disputes between trades engaged in the building industry, or, in other words, inter-union disputes between building trades, each laying claim to a certain form of work, and one striking against the other in order that control over the work in dispute might be secured.

"For some time past we have been troubled with the question of jurisdiction as concerns the installation of what is known as underground piping, when such underground piping is connected in connection with the installation of sprinkler equipments. The United Association of Plumbers, Steam Fitters, Sprinkler Fitters, etc., is granted by the American Federation of Labor trade jurisdiction over all forms of pipe fitting, except conduit piping for electrical purposes, and underground piping of all description comes within the jurisdiction of the United Association. We frequently have internal disputes because of the fact that when sprinkler contracts are awarded, underground pipe work, in connection with sprinkler equipments, is frequently awarded separately from the sprinkler contract, and awarded to plumbing and steam-fitting concerns. When it comes time to install this underground work the sprinkler fitter contests the right of the plumber or steam fitter to make the installation, and the plumber or steam fitter maintains his right to do this work because it comes within the contract of his employer.

"Since this is the case, we maintain that neither one has the right to encroach upon the work of the other; yet when a contract embracing work that clearly belongs to one class of work is subdivided, portions of such contract awarded to another class of men, our task is made exceedingly difficult. Trouble ensues and architects, owners, builders and the public generally are involved as well as the men who are participating in the contest. Of course, ultimately, we dispose of these disputes, but not until much discomfiture and loss has been experienced by all parties.

"Underground piping herein referred to means cast-iron or wrought iron piping, representing underground mains, branches, etc., from city mains,umphs, reservoirs, tanks, hydrants and hydrant boxes, and sprinkler equipments, etc., and I am sending this letter to the members of your Association with the hope that you may be helpful in the future in having this class of work included in the general sprinkler equipment contract, thereby obviating the chance of jurisdictional differences arising on buildings, since these jurisdictional differences, as applying to the class of work, are created because of the subdivisions of the contract..."
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8L Outgoing Pipes, Sewage Disposal and Public Health

As stated in the introductory paragraph to the Division 9D, the question of water-supply and distribution is similar in importance with the question of sewage disposal as concerns the public health.

No better introduction to this Division could be given than Mr. Hill's article printed under 9C1, to which the attention of the reader is directed.

1. The U. S. Bureau of Mines has issued:
   (e) Bulletin No. 87, "Houses for Mining Towns," J. H. White. 1914. 64 pp. Contains a treatise on the subject of the small house in groups and as small towns. Includes a discussion of the town-site and enlargement of town with streets and alleys, types of houses, windows, doors, lighting, ventilation, screening, heating, interior and exterior finish, construction, the yard and its appurtenances, source of water supply, disposal of wastes, sewer systems, substitutes for sewers, and other subjects of vital interest as affecting the public health. Illustrated with map of model mining town, and elevations and plans of houses, details of construction, and other data. Price, 15 cents.

2. See "Proceedings" of the American Society of Civil Engineers for lists of "Current Engineering Literature" on sanitation and other subjects covered by this issue. Also reports of committees in that Society on Flanges and on Standardization.

3. See "Review of Current Technical Literature" and "Journal of the American Society of Mechanical Engineers" for information on these subjects. Also reports of committees in that Society on Flanges and on Standardization.

4. "Modern Methods of Sewage Disposal for Towns," Public Institutions, and Isolated Houses," G. E. Waring. 247 pp., illus. Contents include: Selection of Method of Disposal; Sewage Irrigation, Filling and Filtration; Chemical Treatment; Rights and Obligations of Riparian Owners; Disposal for Large Institutions, and Hotels; Disposal for Village and Country Houses.


6. "How to Drain a House" (9G10), G. E. Waring.


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it would nevertheless appear to be advantageous to keep as much work as possible concerning any one installation under the control of any one contractor making that installation, thereby unifying instead of dividing responsibility for the equipment and its successful operation.

9K Safeguarding Industry—A War-Time Necessity

This is the title of a 24-page book prepared by the National Board of Fire Underwriters for the Council of National Defense, which is replete with practical suggestions for reducing fire-loss. This book is described and quoted from with particular reference to conservation through the use of sprinklers by the Information Service Department of the National Automatic Sprinkler Association on page 20 of the Industrial Section.
Some Conventions, Meetings, and Expositions. September, October, 1917


Sept. 11–14.—The International Association of Municipal Electricians, annual convention, Niagara Falls.

Sept. 18–21.—Chamber of Commerce of the United States of America, special convention at Atlantic City.


Sept. 27–28.—National Association of Brass Manufacturers, meeting at Milwaukee.

Oct. 7–11.—The National Paint, Oil, and Varnish Association, convention, Congress Hotel, Chicago, Ill.

Oct. 15–17.—The National Housing Association, annual meeting, Chicago.

Oct. 26–27.—The American Iron and Steel Institute, annual meeting, Hotel Sinton, Cincinnati.
### General Index to Structural Service Department

**Classified Index to Industrial Section**

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The New 1917 Model
of Biltin Patent
China Bathroom Accessories

THAT BUILD IN THE WALL WITHOUT SCREWS,
ARE SHOWN HERE—THE DAY OF NICKEL-
PLATED BATHROOM ACCESSORIES IS OVER

Snow white china Towel Hooks

Spotless non-slip Towel Bars, no more towels
slipping

The finest, cleanest white Glass Shelf made

China Soap Holders—simply niches in the wall but
made for all tile sizes and plaster walls too

The China Safety Wall Grip to keep you from slip-
ing in the tub. A real ounce of prevention

Roll Toilet Paper Holders of china, for standard rolls
and the No. 1 type rewinds the paper

A white coated metal recess sheet Paper Holder that
is flush with the wall

White china Pipe Escutcheons

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<td>Built in the wall</td>
<td>Screwed on</td>
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<tr>
<td>Recessed in the wall</td>
<td>Projecting from</td>
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<tr>
<td>Economy</td>
<td>Continual upkeep</td>
<td></td>
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</tbody>
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Department 3K

Pittsburgh

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

September, 1917
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Bulletin No. 30, size 8½" x 11", 16 pp., containing a complete report on this investigation, will soon be published. It gives the names of 125 old apartment buildings, the kind of pipe installed, when installed, amount of repairs and replacements to date in hot and cold water mains and risers. The life of iron, steel, and brass pipe in hot water mains is clearly indicated by the law of averages, and a great mass of other specific information of the greatest value is brought to light.

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

September, 1917
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Plumbing Ware has been developed in the last few years to the high quality
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should have an unobstructed escape from the premises.

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are made with a shoulder against which the pipe abuts so closely that all "pockets" are eliminated, thus affording the drainage a free and continuous flow to the sewer. As a further precaution against contamination, the interior of these fittings are as smooth as it is possible to make them. They are heavy and strong enough to safely withstand the strain of settling.

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Industrial Section

Journal of the American Institute of Architects

September, 1917
Potential Power of Architects to Create Conditions Favoring Conservation

Conservation now consumes the attention of the public—there is grave need of conservation of the food supply—feeding is as necessary as fighting to win the war.

Much food has been wasted by both feasting and fire. Mr. Hoover tells how to conserve the food supply by regulating consumption.

The National Board of Fire Underwriters (New York) tells how to conserve food and other things from waste by fire in "Safeguarding Industry—A War-Time Necessity," a book of common-sense rules for remedying conditions favoring the inception and spread of fire. The book is valuable to architects. A mere request will get a copy.

Six conditions favor inception and spread of fire, says the book:

(1) Disorder; (2) Ignorance and Carelessness; (3) Defective Equipment; (4) Faulty Construction; (5) Insufficient Protection; and (6) Lack of Defense.

Architects are mainly responsible for conditions three, four, and five. Though only half the number, they comprehend many more factors of safety than the others. Therefore the potential power of architects to create conditions favoring conservation.

The most vital condition concerns the control of fire. The book says:

Common sense will tell you that almost all fires have small beginnings, from which arises the old saying that the first five minutes in fighting a fire is worth more than the next five hours. This means that your means of extinguishing should be immediately accessible; in other words, that such means should be distributed throughout your premises so that at no point will they be far away. The most valuable of all devices for this purpose is the automatic sprinkler, which is too familiar to need description. It provides an immediate downpour of water at the exact place of the blaze, and generally extinguishes such a blaze at once. Insurance companies recognize this protection by making a larger reduction in rates wherever buildings are well equipped with sprinklers.

Among "Practical Suggestions for Reducing Fire Loss" is this:

When properly installed, with an abundant and constant water supply at proper pressure, and the equipment maintained in a constantly operative condition, the automatic sprinkler has proven itself to be the most reliable and satisfactory fire extinguishing device in use, being suitable for effective service in practically every class of structure and under nearly any condition of fire hazard arising from causes incident to occupancy or processes. It is therefore urged that such protection be installed in every structure where the nature of the occupancy is not such as to render these devices inoperative or ineffective.

Today the design and equipment of buildings to resist and control fire is not only a practical necessity, but also a war-time necessity, and above all, a PATRIOTIC DUTY!

Architects should exercise their potential power now!

Information Service Department
National Automatic Sprinkler Association
80 Maiden Lane, New York, N. Y.
House Drains that can't stand the Sanitary Test will not be approved by the Plumbing Inspector

Suit to test the city ordinance, providing for plumbing inspector and naming his duties, was filed in court yesterday by the Chalmers Manufacturing company, who are erecting a building at Greenlawn avenue and the Erie railroad. They secured Harry Dewitt as contractor and he in turn engaged John Scully as plumber.

When the building reached the point where Edward Ashton, city plumbing inspector, was to go over the same and sanction approval of the plumbing system, Ashton informed the company and contractors he would use a ten-foot head of water test. This the contractors aver the drains will not stand and claim the same is unjust in this test.

Ashton, according to the petition, stated he would arrest the contractors unless they tore up the drains and complied with his order. He refused to give his approval of the system.

Upon contractors providing a bond of $300 in court today, Ashton was temporarily enjoined from interfering with the construction and completion of the house drains and from using and enforcing the 10-foot head of water test on the drains, which are of earthenware pipe, of the quality and character provided by the state plumbing law. The joints are of mortar, made of one part of the best Portland cement and one part of clean, sharp sand. Ashton wanted to use the test for a period of 15 minutes.

Too bad they didn't use CAST IRON SOIL PIPE!

Wherever a sanitary test is to be made, CAST IRON HOUSE DRAINS, AND HOUSE SEwers, are installed in less time and at less cost than pipe of any other material.

Every town in America is learning through costly experience the lessons of sanitation and house drainage economy. Today 'modern' plumbing codes insist on CAST IRON SOIL PIPE for all house drainage.
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This is a specialty of ours, handed down from the early days of our business. In this brand we have preserved an old-time standard of manufacture, for the use and benefit of present-day architects. Few building materials have had so thorough a test of time as Target-and-Arrow Roofing Tin. It remains today the same durable quality that we have supplied to American sheet metal workers for more than seventy years. It costs a little more than other roofing tin, so you are not likely to get Taylor quality if you write a specification that permits substitution.

Specify Taylor's Target-and-Arrow Roofing Tin, either IC or IX thickness, as desired. This Roofing Tin is sold at a fixed resale price.

Our catalogue is in 'Sweet's,' all issues. We have full-size working drawings describing in detail the method of applying heavy ribbed tin roofing, and shall be glad to send these to any one interested, upon request. These drawings will also be found among the Service Sheets contained in the portfolio issued by the Architectural Service Corporation, Philadelphia.

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Improved Sectionfold Partitions
(PATENTED)

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INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
September, 1917
The Cutler Mail Chute

is used in thousands of buildings in every part of the United States, and abroad; has been for more than a quarter of a century, and will remain, the standard of excellence in every respect.

It has received the highest award wherever exhibited, and is being furnished to all those who consider quality as well as price, at exceptionally low figures.

The construction developed in long experience as the only safe one is protected by litigated patents, which have been sustained and which counsel advises are being infringed.

You will not know what our price is until you get it from us, and, when it is before you, we shall be favored with your business.

Agents in every important center.
Sweet's Index Pages 1726 and 1727.

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Eight Gearless Traction Elevators

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A. B. See Electric Elevator Company

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Circular Relative to the Size and Character of Advertising Matter.

A Circular of Advice Relative to Principles of Professional Practice. The Canons of Ethics.
A. I. A. Document, Series A, No. 107

A Circular of Advice and Information Relative to the Conduct of Architectural Competitions.
A. I. A. Document, Series A, No. 114

Standard Form of Competition Program.
A. I. A. Document, Series A, No. 115

Proceedings of the Fiftieth Convention (1916).
A. I. A. Document, Series A, No. 121

Annuary (1917).
A. I. A. Document, Series A, No. 122

Constitution and By-Laws.
A. I. A. Document, Series A, No. 123

Schedule of Proper Minimum Charges.
A. I. A. Document, Series A, No. 124

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After a floor is set it needs Lapidolith to prevent disintegration.

Department 21

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The majority of Government post-office buildings are also now built of Indiana Limestone. There is no better guide for your judgment in the selection of building material than the Federal Government, which takes into fullest account the tests of use, of durability, of beauty, of cost, plus the tests of the scientific laboratory.

Volume I of the Indiana Limestone Library is a beautiful booklet which gives an interesting lot of information. No matter what you intend to build, begin by writing for this book. It is FREE and a sample of the stone will come with it. Our Service Bureau will be glad to answer your questions and to advise and help you. Write today.

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In the belief that architects share our enthusiasm for beautiful woods, we will send them one copy each on request. Owing to its costliness our distribution of this publication must be limited to architects.

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INDUSTRIAL SECTION

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

September, 1917
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New York Chicago Boston St. Louis Minneapolis Des Moines Denver Savannah

Caretto Forster & King, Architects

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Industrial Section

September, 1917

Journal of the American Institute of Architects
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These designs will all be published in our September issue, a copy of which will be sent free to all competitors.

**AS SOON AS PUBLISHED, SHEETS SHOWING THE WINNING DRAWINGS WILL BE SENT WITH OUR COMPLIMENTS TO ANY MEMBER OF THE PROFESSION WHO REQUESTS THEM.**

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Boston, August 8, 1917

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

October, 1917
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THE LINCOLN MONUMENT AT WASHINGTON. VERY MUCH AS IT WILL APPEAR WHEN FINALLY COMPLETED

"As I would not be a slave, so would I not be a master. This expresses my idea of democracy. Whatever differs from this, to the extent of the difference, is no democracy."—ABRAHAM LINCOLN
The public building situation at Washington has developed to a considerable degree during the last month. The Treasury Annex Building, authorized by the Senate, and the discussion of which by that body was published as a Supplement to the August Journal, has been passed by the House. That body, however, struck from the Senate bill the clause requiring the approval of the plans by the Commission of Fine Arts. This sent the bill into conference, from which it emerged in the form adopted by the House, the Senate conference receding from the position taken by that body.

Mr. Cooper, of Wisconsin, defended the valuable work of the Commission, as did Mr. Campbell, of Kansas, and Mr. Green, of Iowa, but the resentment of Mr. Burnett, of Alabama, and of Mr. Cannon, of Illinois, although expressed in terms which clouded the issue by a recital of offenses not at all chargeable to the Commission, prevailed upon the small number of members present, and the Senate amendment was lost by a vote of 162 to 86.

It must be remembered in considering this question that the action of the Senate gave a mandatory power to the Commission of Fine Arts. Under the Executive Order from which it now derives its powers, the plans will still be submitted to it for criticism, but it will have no power to insist upon any changes. As we have before stated, it is understood, we believe, that the design of the building will be such as to make the Lafayette Place façade adaptable to a continuance of the design when future buildings are erected on the site now occupied by the Belasco Theater, the old Cameron House and the Cosmos Club. The building, in all probability, will be begun without delay. It is to cost $1,250,000, and to be finished in about a year's time.

The Journal announces the departure for England of Mr. Frederick L. Ackerman, of the firm of Trowbridge and Ackerman, of New York City. Mr. Ackerman has served with great ability on the Institute Committee on Public Information and the Committee on Town Planning. He goes to Europe as the special correspondent of the Journal, and particularly for making a study of the vast housing undertakings which have already been carried through by the British Government, as well as those on an even larger scale which are now projected for the re-housing of her working classes after the war.

Mr. Ackerman's investigations will be narrated in the Journal as fast as they are received from him, and will form, perhaps, the most important contribution to the literature of housing which has yet appeared, since it will be based upon the larger governmental interest which the war has forced in this subject. That the policy of Great Britain will be reflected in the reconstruction of France and Belgium may not be doubted, but of even greater moment is the certainty that the United States will also react in like manner. The cooperative idea which is now leading to the rapid formation of National Farm Loan Associations, under the supervision of the Farm Loan Board, has given a great impulse to the possible application of similar principles, with governmental aid, in home building.

The more important countries of the world
have long accepted this idea as a legitimate and necessary governmental function, and Mr. Ackerman will make important contributions to the existing knowledge of their workings and their further extension as a result of the war. These articles will appear in many issues of the Journal and will be supplemented by others from the pens of the foremost authorities on the subject of housing, both in the United States and abroad.

IN RESPONSE TO THE SUGGESTION for another architectural society to engage in stimulating the perceptions of governmental authorities and legislators in their outlook upon questions of art, there have appeared in the Bulletin of the Illinois Society of Architects some excellent letters, all of which point out the desirability of more devotion to the Institute rather than a division of that which now exists. The letter of Mr. Hubert E. Hewitt, of Peoria, Ill., deserves a wide reading, however, for it is so fine a summing up of all the factors, some of which escape attention in a too general consideration of the problems involved. Mr. Hewitt's letter is as follows:

I have read and I heartily approve of President Malcolmson's suggestions to stimulate the Government's appreciation of Architecture, but it seems to me that the real cause of the trouble lies so deep that his suggestions might be supplemented by a remedy more fundamental and more far-reaching than that which he proposes.

The average Congressman is the average man-of-affairs. The average man-of-affairs who has reached middle age or beyond without acquiring that degree of culture which enables him to appreciate Art and the value of Art to life, is not likely to be stimulated to such an appreciation after that time. An appeal to him for better Architecture or better Art of any kind is likely to be in vain. It is sad, but true, that the average man has an appreciation of Art comparable, perhaps, to a cow's appreciation of an automobile. The cow's choice would be one made of clover and grains, with salt trimmings. She "knows what she likes."

May it not be true that the real remedy consists in the cultural education of the people that the Congressman represents? And that means, first of all, the instilling into the child throughout its schooling from kindergarten to university the great fact (which some men realize too late and some never realize at all) that the quickening and development of the soul is of equal, if not greater, importance than the development of our material selves.

The "man in the street" still associates Art, of all kinds, with long hair and "temperament." It is something for the rich and the idle to play with and the "odd genius" to produce. Art in this country at the present time is distinctly not "of the people" and it is difficult to persuade them that it is "for the people." I speak of Art instead of Architecture for the sake of generalization. The Arts go hand in hand.

It is trite to say that the lack of public interest in all branches of Art is due to the essentially materialistic time in which we live. We all know that. But, after the war—will there be an opportunity? I think there will. We shall be sobered, unified, perhaps chastened. Men's minds will turn from material things and the starved souls of men will cry out for food. Is it too much to hope that, if we take advantage of the opportunity, we may have a great Art revival when the war is over?

In an incredibly short time, we have become the greatest nation, materially, in the world. May we not become, with comparable swiftness, the greatest nation in a finer sense? HUBERT E. HEWITT, Peoria, Ill.

IN CONNECTION WITH the British Government's study of the technical questions in bearing upon the building of the large number of houses for industrial workers after the war, the President of the Royal Institute of British Architects has, upon request from the authorities, nominated Sir Aston Webb to serve on behalf of the R. I. B. A. on the committee which has been set up by the Local Government Board. A committee of the R. I. B. A. has been constituted by the Council and is now considering the question from the architect's point of view. The committee consists of the President, the Honorary Secretary, Sir Aston Webb, Professor Abercrombie, Professor Adshead, W. R. Davidge, W. A. Harvey, Arthur Keen, H. V. Lanchester, D. B. Niven, G. Gilbert Scott, J. W. Simpson, H. D. Searles Wood, George Hubbard, and Percy B. Tubbs. The allied architectural societies have been asked to nominate representatives to serve on the committee, while the principle of local committees to deal with local problems and keep in touch with the central committee has been recommended for adoption. These activities indicate that the question of living conditions has attained an economic importance which will surely lead to better things in England. We must follow, and the part played by architects, both here and there, in bringing about those betterments which are long overdue, will go far toward determining the position of the profession in a future to which we look forward with such eager hope. Surely human values will be lifted far higher in the new scale; we cannot believe otherwise.
What Is a House?

By CHARLES HARRIS WHITAKER

I

SINCE the war began, the British Government, under such financial and industrial pressure as never before befell a nation, has spent millions upon millions in building houses of all kinds for its workers. It is one of the most remarkable and deeply significant transformations wrought by War. While her vast industrial expansion and its accompanying congestion of workers are the undoubted causes of England’s huge expenditure for better homes, the deeper significance may be found in her plans for carrying on this program as a measure of post-war prudence. War has raised the standard of the house in England for all time. It has given a new meaning to the word.

Great was the pressure under which England labored and pressing was the emergency with which she had to cope. The life of her armies, upon which her own life hung in the balance, was in the keeping of her factories and workshops. Yet as the old ones doubled, trebled, quadrupled their size over night, as new ones larger than any the world had ever seen sprang up like magic, there also grew the parallel need for more houses in which the workers could live. And there also grew the perception that if the workers were to give their utmost in skill and energy they must be given the utmost in home life. The renewal and constant maintenance of vitality meant more ships, more guns, more ammunition. And then came the miracle!

With sound economic foresight, England determined to build permanent houses, except in cases where the emergency was so dire as to compel temporary expedients. She found that taking into account the expense of applying the utilities (streets, water, gas, sewage), the difference in cost between temporary and permanent houses was so little as to be negligible in her calculations. Rather than accept a questionable post-war salvage from temporary structures, with the inevitable temptation to continue their use as slums, she resolved to create a permanent national asset. Thus there have grown up in an incredibly short time whole new towns and villages which will not only remain after the war but which will compel a generally higher standard for workmen’s homes,—for permanency is only a part of the miracle.

Having come to this decision, it became necessary to ask what kind of houses to build, in other words, “What is a house?” During the last hundred years of industrial expansion the definition of a house has been sinking slowly to a level where it included almost everything which could claim walls and a roof. The percentage of unsanitary, disease-breeding structures inhabited by men, women, and children in all the so-called civilized countries of the world has been a sad blot on their escutcheon. Without exception, all the great nations except the United States—even the newer lands of Australia and New Zealand are ahead of us—have recognized this condition and accepted the duty of attempting its amelioration by financial aid of different kinds, as a legitimate and just governmental function. It may be said without hesitation that the application of science and governmental aid to home-building for workmen in Germany was one of her vital steps in the great scheme of war preparedness. Her model villages have been cited the world over, while her coöperative home-building and land-owning associations, fostered by the government, have been studied with profit in all other countries. England had begun to deal with this question, of late years, so that when she was compelled to undertake an immediate industrial expansion which should outweigh and outshoot Germany’s highly organized machine, the accompanying problem of house-building was not an entire novelty. She had dealt with it before. Her garden cities were among the pioneering movements of modern housing reform. All her communities have large powers in dealing with the question, and the model tenements of London, Liverpool, Glasgow, and other cities, though far from solving the question of “What is a house?” were long steps forward. Of profound significance is the fact that since war began, London has demolished...
acres of slums and erected model tenements thereon. In order to bring the rentals of these within reach of workmen, she has charged off the entire cost of the land against her more prosperous areas!

But in the middle of war, with the determination made to spend millions in new houses, England asked herself fairly and squarely, "What is a house?" Perhaps her answer will do more than anything else toward solving the social, economic, and political problems which the end of the war will lay before every nation with a new and sterner emphasis than ever before. The houses she has built would not do for the United States. They are built in full recognition of certain long-established traditions and modes of life. They have no central heat, for example, but are generally heated with fireplaces, while their interior planning is not after our methods. They range in size from two to five rooms, with bath, with rentals varying from $1.80 to $3.60 a week. For such sums it probably is impossible to rent their equivalent elsewhere in the world, although it is no doubt true that these low rentals are only made possible by governmental willingness to accept a rate of return on the investment such as would not satisfy private capital. It is also possible that England may have to write off, as a war expense, the difference in cost of these houses, at war-time prices and those normally obtaining. Curiously enough, many people exclaim at the idea of such a possible waste, forgetting that war is nothing but a process of throwing away money, and that it does not matter whether it goes into ships, guns, aeroplanes, or houses, so long as the end is attained. But England finds a return on her investment in houses which cannot be measured in money, and it is highly probable that of all her vast expenditures the houses she has built for her workers will remain as one of the very few revenue-producing factors after it is all over.

Private capital failed to provide England with the houses she needed in order to wage a successful war. Building costs were higher than normal, and private capital feared that if it built in war time, it might be left with houses on its hands which could afterward be duplicated for much less money. It also shared in the general uncertainty as to how reconstruction might affect industries expanded under war pressure. The war might leave these, temporarily, without usefulness and the houses in such a locality tenantless. But the Government could not allow any such doubts to jeopardize its success in war. At no matter what cost—or what loss—it had to have houses. In this recognition lies the kernel of a hope that the definition of a house is to be permanently revised.

War has shown the full meaning of the house as a factor in national preservation, for war brings nations face to face with national death, and it is then that nations see themselves. Can it be doubted that Peace will ever again allow the house to sink to the low level of the last hundred years? Can it be possible that the plain business value which has been found to lie in the good house will be ignored by Peace? The measure of a nation's prosperity and strength is shown to lie, not in the size of its factories, the elegance of its public buildings, the luxury of its hotels, but in the small thing known as a house. Germany learned this before the war and applied her knowledge on a vast scale, dastardly as was the end she pursued. Other nations have learned through the need of defeating that end, and will not forget. But woe to the nation which forgets to learn!

In the United States today our industrial war-time expansion, upon which so much depends, is hampered and impeded by the lack of houses. It is further restricted by congestion in the hideous structures which pass under that name. Our expansion has been so rapid that this condition grew up almost unnoticed. Under the pretense of shortage of workers, there come increasing requests for permission to work men, women, and children longer hours than the law permits. The answer, in almost every case, lies in the fact that the real shortage is in houses and rooms. In such cases, increased production is possible only by overworking those who can house themselves, and the end of that would be deplorable. Many factories making war necessaries are not running full because they cannot house the workers. Wherever men and women are working in these centers, their vitality frequently is impaired by the conditions under which they live.

Private capital is failing here as it failed in England, and for the same reasons. The situation has assumed alarming proportions,
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and the approach of winter will render intolerable many of the present makeshifts used for houses all over the country. The conditions in Cleveland, Akron, Bayonne, Bridgeport, Norfolk, Newport News, in fact wherever one turns, are fraught with elements of unrest and discontent which are finding frequent expression. As a consequence there is delay in that industrial production which is so vital—a delay which costs so huge a sum. For every day the end of the war is put off, we may charge ourselves with something like $50,000,000! In the presence of this fact, how shall we answer the question "What is a house?"

The administration at Washington is fully alive to the importance of these conditions and is preparing to cope with them. If it answers the question wisely and with foresight, the United States will learn a great and valuable lesson, for we shall learn that if a decent house is essential to war, it will be equally essential to our economic life after the war. Upon no vital question affecting human welfare and human progress toward that larger democracy for which we are giving our blood and our treasure will the light of war beat with a more enduring flame than upon the one, "What is a house?"

II

In building her new towns and villages, England did not treat the house as an isolated factor. In the first place, she embodied in its design the traditions of that rural domestic architecture which has so much delighted the thousands of Americans who have roamed the English countryside. She arranged them, whether singly or in groups, to form a harmonious whole and to avoid the deadly monotony of straight streets lined with houses of one pattern, no one differing from any other and known only by a number, each possessing as much outward atmosphere of inviting appearance as a row of freight cars. Nothing has contributed more to the slowness with which we respond to questions of civic import than this deadly monotony. The man of means builds a home in which he may give expression to his tastes and inclinations. Slowly, but surely, this kind of domestic architecture has lifted itself out of the slough of the Victorian era and the slavish copying by architects too lazy or too ignorant to study their problems, and begun to claim a place as a distinctly national development of value. But this applies only to an infinitesimally small proportion of our house-building operations. In the main, our towns and cities, and even our rural districts, are made hideous by the multitude of tawdry houses and the ugliness of surroundings which that tawdriness inevitably breeds—bill-boards, dumps, shanties, with waste paper and refuse scattered in indiscriminate profusion. Slowly, but surely, we become accustomed to it; we tolerate it; we ignore it. But all unconsciously we never forget it, for we flee it as a plague. We flee it for the country when we can. We flee it for anything which offers a distraction. And when men, women, and children unconsciously begin to flee the neighborhood of their home, what chance has the community to develop civic, social, or even economic progress? Such flight is the unconscious surrender of a political ideal, the precursor of revolutions.

Yet against the ugliness of our miles and miles of desolate, monotonous streets, we can only point to the one-time picturesque quality of thousands of European communities by reminding ourselves that we have made progress in several important directions.

But why were we willing to accept advances in sanitation, comfort, convenience, with so little thought of the preservation of those other qualities of charm and picturesque attractiveness which we so much admire when we visit Europe, or still find untouched here and there in our own country? The answer involves a long study of our industrial and social transformations, wherein ruthless competition, unchecked by any community foresight, has raised land values unequally, destroyed them by the same ruthless method, and made highly speculative what which should of all things be permanent—realty values.

The full answer, taking cognizance of these things yet denying them their right to lower the standards of a nation by steadily reducing, first, the size of the lot, then the size of the house, then the size of the room, enunciates the warning that this ever more and more relentless compression also squeezes out the moral and physical values which are the only source of national progress.

In her wartime house-building, England has recognized this as a fundamental principle.
Her houses have ample lot-room and a maximum of light and air. Instead of being monotonous they are as varied in their picturesque character as any of the ancient towns of England. These new villages are striking examples of what may be done when the size of lot and house and room—and their design and arrangement—are not arbitrarily and ruthlessly sacrificed to the financial limitations of private capital. And this is no indictment of the little-understood thing we call capital. It is an indictment of the community and of the nation which is so shortsighted as first to permit and then to compel, as a measure of business salvation to the owner, the erection of structures, houses, tenements, that quickly decline in value through deterioration, ultimately diminish the taxable value of the neighborhood in which they stand, and always lower the standards, moral and physical, of those who inhabit them.

This is the civic crime of the ages—the acceptance by the community of a business principle which every good business man would reject in his own business without the slightest hesitation. Against this condition, of what value are architects and building codes? Their efforts must be directed to cheapening the cost of construction, both by reduction in space area per family and by the use of the least expensive materials and methods of construction which will pass the code, either honestly or by connivance. Today we are in the grip of this inexorable condition; tomorrow, how long deferred we know not, we shall begin to emerge from it, or else one lesson of the war will be lost.

The building of houses is today a speculation. Whether a man builds with the hope of a profit through sale, or rise in value, or with the hope that he will not sustain a loss, does not matter. The speculative idea is there; it cannot be escaped. Worse than this, one man bent upon a speculation which promises large profits to him by taking advantage of the helpless community can erect a type of structure which will so damage a neighborhood as to force others to put their property to the same use. This is only a temporary expedient. In the end the community loses. It suffers the loss in taxable values which is the anxious consideration of the financial authorities of all our cities, and it suffers the moral loss of a descending rather than an ascending scale of life. It is idle to condemn speculative builders and so-called private capital for these practices. The fundamental fault, which must and will be corrected, is the neglect of the community to see that the longer it gives carte blanche to the individual to convert land values to his private gain by no matter what means, the larger will be the bill which the community will have to pay in undoing his misdeeds. This is becoming so increasingly evident that the zoning or districting law, which governs the character and occupancy of new structures in a city, is being applied in several of our American cities. New York City welcomed it with open arms, as the only measure of conserving the city’s taxable values and of giving any permanency to reality. It undoubtedly offers a large avenue of relief. European countries have applied it successfully, and while it may have a tendency temporarily to diminish the volume of building, in the end it encourages the erection of good buildings as a permanent rather than a speculative investment.

“What is a house?” It is the prime element of national growth. It is the soil whence springs that eagerness in the heart of every man for a home of his own. It is, after all, the physical attribute of life upon the possession or retention of which most of our energy is directed. Because of these things, it is the backbone of the nation. By the quality of its appearance, its convenience, its durability, one may infallibly determine the real degree of a nation’s prosperity and civilization.

“What is a house?” It is not a solitary entity by any means. Let us not forget that. Just houses, no matter how well they answer our question, would not suffice. With houses go other things—good streets, for example (although our blind adherence to the old street idea wastes acres of land and involves costs of upkeep which are rapidly challenging attention), gas, water, light, fire protection (which ought to be needed less and less, rather than more and more), garbage removal—all of these things are indispensable in any modern community. But, in addition to these purely physical attributes, there must be provided opportunities for social recreation, for play, for the influences of the school, the drama, music, the dance, the arts in general. That is why England, in building thousands of homes for her workers (as Germany did before her), has
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had the foresight to build, wherever the existing community was incapable of meeting the need, schools, churches, halls, recreation grounds, laundries, and even public kitchens. There are large open areas for the children—and for grown-ups, too.

“Socialism,” says somebody. “Fad,” says another. “Patrialism,” cries a third. But, mark this well, the least important thing about it is the name by which it is called. Those who live principally for the pleasure of hugging words to their bosom long after all spark of life has left the letters which they spell glibly over and over, may continue the pursuit of this childish pastime. Men who have sense enough to recognize human forces and currents—who know that the world is moved by these and that progress comes through them and not by the names they are called—such men will understand that England is putting her house in order by putting the houses of her people in order. In other words, she is getting ready to pay her debts by organizing her commerce and industry on new lines, far in advance of anything else (as Germany did before her). She is preparing for her return into world markets on a larger scale than before, for it is from those markets that all the nations must collect the money for paying their interest charges and debts. Such an economic measure will be precedent to the payment of national debts by all nations, ourselves included. And in the working out of that program, the house, as a giver of rest and contentment, source of satisfaction, emblem of true community growth, and forerunner of sound community values, will play a part which England seems to understand, at last.

Shall we learn?

(To be continued)

Gothic Art, the War and After

By A. KINGSLEY PORTER

THE cathedral of Reims is in ruins. We all know it. We have grown accustomed—almost callous—to the fact. The cathedral of Reims, unequaled for its façade and for its wealth of sculpture, is destroyed. We shall nevermore study the wonderful glass of the clearstory, with its blazing scarlets and reds, the warmest, the most pulsating, the most daring glasswork in all France. The grave saints that lined the portals with faces so full of dignity and Christian fortitude are broken into bits. Even the wonderful angel of never-to-be-forgotten gentleness, so solicitous, so tender, was not spared. What two fires and the wars of six hundred years had left uninjured our age has annihilated. German cannonading was able to destroy a monument the equal of which fifteen centuries of boasted German culture have been unable to produce.

Nor has the destruction been limited to the cathedral of Reims. The region through which the German armies have swept, leveling all to the ground before them, was the classic region, the Tuscany, the Attica of France.

Gothic art, the most perfect of all expressions of beauty, reached its complete culmination only in a small district. It was in the Île-de-France, and especially in the region to the east of Paris, that it was born and that it attained its flower. It was copied from one end of Europe to the other, but in its pure essence, at its absolute best, it is to be found only here. Complete knowledge is yet lacking, but it is certain that in addition to the cathedral of Reims, the cathedral of Soissons, with its fairy-like south transept, its noble nave; St.-Remi; presumably Morienval, the Rucellai Madonna of Gothic architecture, over which generations of archeologists have broken their lances; countless other abbeys and parishes lie in more or less complete ruin. Since the barbarian invasions art has suffered no such loss. It is the study of these early buildings that has opened our eyes to the true character and true beauty of medieval work. Each of the country churches of the Soissoisans was a masterpiece of art in its way, each unrivaled, each with its own individual character.

It may be that in the centuries to come the other wrongs of this war will be forgotten. We no longer ask whether the Huns did or did not have a justifiable pretext for overrunning Italy. Today we care very little whether Alaric took
or did not take Rome, or how long he held it. We have forgotten about the sufferings of the vanquished, the wrongs of the women, the death agony of individuals and peoples. We hardly know even the name of the barbarians who overran Greece. Their conquests, their gains and losses, are recorded only in the obscure pages of dusty histories. What we are acutely conscious of is the fact that Greek art was in great part destroyed, that not a single Greek painting has come down to us, that the works of Menander and Sappho are lost, that the Greek temples are in ruins, that masterpieces of Greek sculpture ended in the lime-kiln. And so it shall be with this war. Other things, however atrocious, time, which heals almost everything, may cure. But the wanton destruction of Gothic art must always remain to the end of time an act which the civilized world can never forgive, a wrong which the Germans have committed not only against France, but against all humanity, against themselves. For centuries still to come the German children must learn that their forefathers, in wantonness and cold blood, destroyed the most beautiful of arts, and they must realize that their own lives have by this act been deprived of a source of happiness which they might otherwise enjoy. The barbarians who sacked Rome might plead one excuse—they knew not what they did. They had no conception of art nor of its value. The Germans can plead no such excuse. The Germans knew what they did. They knew the value of what they destroyed.

When the war ends, the question must inevitably arise, What is to be done with the partially ruined monuments left by the Germans? There is grave reason to fear that the mistake of a century ago may be repeated. French Gothic architecture, it will be remembered, suffered terrible damage in the Revolution, but worse than this were the ill-advised restorations which followed. The question of restoration is an exceedingly delicate one. It is the friends, and the very sincere friends of the monuments, who promote it, frequently at great sacrifices. Their zeal and good intentions are undoubted. It therefore seems ungrateful to point to them as dangers. Since, however, an agitation is already being started to restore the ruined Gothic monuments, it is very necessary to come to a realization of what may only too probably result from misguided enthusiasm.

Gothic monuments are valuable from two distinct points of view. In the first place, they are historical documents, giving us information about past ages, the philosophy, the building methods, the character of the Middle Ages. This may be called their archeological value. Even more important is their purely artistic value, the joy they are capable of communicating as a thing of beauty. Both these values are liable to, nay almost certain of, destruction by restoration.

From the point of view of the archaologist, a restoration puts in his hand a falsified document. It is impossible to be certain of what is old, what is restored upon reliable authority, and what is merely conjecture liable to be entirely misleading. The very fact that restorations are generally cleverly done makes it impossible to disentangle the old from the new. Only one who has worked for years upon medieval monuments can realize the extent of the mischief wrought by modern renovations. Paradoxical as the statement may seem, the better these restorations are, the more deplorable is the archeological result.

A few instances of the way in which the modern restorer has led astray the learned may give some idea of this evil. In the ninth decade of the nineteenth century the church of S. Vincenzo in Prato at Milan was restored. It was rescued from almost certain destruction in being used as a chemical factory, and reopened to the Christian cult. At that time it was believed that arched corbel-tables were characteristic of all Lombard monuments, and the cornice of the façade was rebuilt with arched corbel-tables. As a matter of fact, this motive was not used in Lombardy until the eleventh century, while S. Vincenzo dates from the ninth century. It was forgotten that the corbel-tables had been added by restorers, and archaologists concluded that those of S. Vincenzo were of the ninth century. The entire history of Lombard architecture was consequently confused. Because of the corbel-tables of S. Vincenzo a whole group of monuments of later date was ascribed to the Carolingian epoch.

Nothing would be easier than to multiply similar instances. The statues of the S. Zeno pontile at Verona are modern, added in the nineteenth century restoration, yet they have been discussed as ancient by every critic of
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Italian medieval sculpture, and whole theories of attribution have been based upon them. The best and most conscientious archeologists have been frequently deceived by restorations. Cattaneo published a modern capital of S. Vincenzo as an example of the Lombard style of the ninth century. Professor Moore was deceived by the modern statues of the façade of Paris. An archeologist of the present day, when he studies a medieval monument, is obliged to spend weeks in tracing the changes wrought in the nineteenth century. Only so can he be certain what is genuine and what is restoration. And in many monuments, even of the greatest importance, it is already impossible to prove what is new and what is old. Such buildings are without archeological value, although they may be nine-tenths genuine. It is impossible to be certain that the particular point in question may not be included in the one-tenth conjecture.

The usual plea for restoration is founded upon the esthetic appeal of a work of art. It is generally felt that the total effect is marred by damaged portions and that the building can be better enjoyed if these are put in harmony with the rest so as not to distract the attention. Yet in point of fact I think even the most tactful modern restoration is quite so pernicious from an artistic as from an archeological point of view. Modern workmen cannot reproduce nor copy Gothic work. The hardness of modern machine-made methods completely ruins that verve and feeling which is the soul of medieval art. Here, again, the restoration is so much the more misleading that it is not easy to disentangle the new portions from the ancient. Better, a thousand times, a ruin than a restored building. The ruin may have a certain picturesque quality of its own; at any rate it tells no lies. What is there is genuine, is medieval. The eye that is practised may imagine missing portions, reconstructing mentally the building as it was. In the restored building, however, the original beauty is hopelessly and forever lost. Not even the most experienced eye can reconstitute the edifice as it was, strip it of the modern metallic hardness, reinvest it with its ancient poetry. It can not be emphasized too solemnly that restoration of medieval work is destruction of medieval art.

It would be as vain to attempt to restore the ruined Gothic churches as to repaint the lost pictures of Apelles. A Shelley, it is true, might give us, not a lost tragedy of Æschylus (that would, indeed, be impossible), but another poem conceivably as beautiful; but there are no Shelleys among modern architects. The touch of the modern on medieval monuments is a profanation and a destruction. During the last half century the medieval monuments of all Europe have been gradually, little by little, replaced by modern copies under the name of restoration. The inferiority of the copies is so great that I have often felt that it would be better to tear a building down absolutely than to make an unbeautiful misleading copy for the misinformation of posterity. No one—at least of all an art critic—suggested, when the Mona Lisa was stolen from the Louvre, that the loss could be made good by having a copy painted and replaced in the frame. Yet how much more nearly would a copy of the Mona Lisa approach the value of the original than a copy of the cathedral of Reims could approach the building which has been destroyed!

We must realize frankly, therefore, that the destroyed churches of France are in danger of a fate even worse than that which has already befallen them. Ill-advised enthusiasm among people whose perceptions are not specially trained, is very liable to result in crowding the competent authority—which is the official Commission des Monuments Historiques—into sanctioning or even promoting the restoration of these buildings.

Gothic churches cannot and must not be restored. What is done cannot be undone. The losses caused by the Revolution, in ignorance, were great. Of an important part of the heritage which earlier centuries had already in ignorance depleted, the Germans have in knowledge deprived all humanity. Let us not make the matter worse and still further reduce the patrimony by restoration. Works of restoration should be undertaken only when necessary to prevent further disintegration. Let the destroyed monuments of France stand as ruins, but noble, poetic, beautiful ruins, not machine-made, modern churches. Let them stand a sempiternal reproach and source of shame to the Germans; but let it never be said that their friends destroyed what their enemies had spared.
Outline of a Tentative Program for Dealing with the Housing Shortage in War Industries*

Preliminary Statement

The essential facts leading to the presentation of this program are the knowledge of the house shortage and congestion which impair our industrial production and which will surely lead to labor unrest and a consequent further impairment, and a study of the methods by which England has coped with a similar condition.

In any consideration of solutions, the question of post-war salvage should not be allowed to enter into the decision of how best to deal with any problem. No loss sustained in building operations can possibly be challenged in the face of the cost of delay involved in a scheme of expenditure so colossal as this war makes necessary, quite aside from the plain duty of conserving the utmost in human life.

A. Legislation Required.

1. The Government shall have power to take land for housing purposes throughout the duration of the war.

[Note.—Under the "Defense of the Realm" Act, England has this power under the following provisions:

"to take possession of any land and to construct military works, including roads, wharves, and to remove any trees, hedges, and fences therefrom; to take possession of any buildings or other property, including work for the supply of gas, electricity or water, or of any sources of water supply; . . . to cause any buildings or structures to be destroyed, or any property to be moved from one place to another or to be destroyed; . . . to do any other act involving interference with private rights or property which is necessary for the purpose aforesaid." May 10, 1916.]

2. An appropriation of $100,000,000, of which $200,000,000 is set aside for administrative purposes, for erecting or aiding in the erection of houses for workers engaged in making war necessaries.

[Note.—This sum is based on a rough calculation of housing the equivalent of 40,000 families, at a cost of $1,500 per family unit.]

B. Contingent Legislation, submitted as bearing on the whole problem.

1. The right to take over any unoccupied property for housing use.

[Note.—Under the "Defense of the Realm" Act, England has this power in the following clauses:

"It shall be lawful for the Admiralty or Army Council or the Ministry of Munitions to take possession of any unoccupied premises for the purpose of housing workmen engaged in the production, storage or transport of war material."]

2. The right to prevent the raising of rentals.

[Note.—This has been one of the most powerful factors in stabilizing labor conditions in England, and has been in effect since early in the war.]

3. The right to fix prices for canteens or boarding houses.

[Note.—England has lately enacted legislation known as the "Billeting Act," which makes it appear that this regulation was found necessary, but the act has not been in force long enough for its value to be determined.]

C. Methods of Administering Funds.

[Note.—The pressing emergency requires the discard of all plans based on the cooperative idea, and the establishment of a probable good administration, and would undoubtedly work out a high post-war value.]

1. Making funds available to those manufacturers who are making war materials and who can quickly conduct a housing undertaking of the kind necessary to meet their needs.

[Note.—Whether all or part of the money is advanced by the Government, arrangements may be made for the sale of the Government's interest at the close of the war, upon a basis of residual value, and in probably the cause of the failure of so many industrial housing operations. As a principle in housing it is generally deprecated by students of the question.]

2. Making funds available to stock companies generally known as housing associations, either by advancing all or part of the money required, with provision for sale by the Government of its interest, after the war, at a residual value to be determined.

This plan has the merit of expedition, wherever it can be worked. It has the great demerit of involving house rental with labor problems and is probably the cause of the failure of so many industrial housing operations. As a principle in housing it is generally deprecated by students of the question.

3. Having the Government buy land and build houses.

This method was adopted by the British Government and applied on a colossal scale as indispensable to war production. It should be applied in this country with the utmost celerity as a means of stabilizing labor, relieving congestion, increasing vitality, and augmenting the industrial production which is so vital.

D. Types of Houses Required.

1. Single-family dwellings, whether built in units, of one, two, three, or four.

2. Houses adapted to the taking of boarders by a family or keeper.

[Note.—These are far preferable to the hostels built by the British Government, and designed to serve as dormitories. Inability to fix hours or prescribe the character of the occupancy soon developed great objection to their use, and many of those built are today only partially occupied, even in the face of serious congestion in the locality.]

3. Multi-family houses of the urban tenement type.

These offer quick and cheap solutions, wherever possible. They permit centralization of heating, lighting, laundry, etc., and will, in urban centers, house a family cheaper than by single houses or groups of two, three, or four family types.

4. Temporary structures.

These should be built only where the emergency compels. England found that the difference in cost between temporary and permanent construction, taking into account the application of the necessary utilities, made it wasteful to build in other than permanent fashion. Where the temporary structures are erected, their demolition should be made mandatory, since experience demonstrates that such structures develop into slums, as Galveston and San Francisco will bear witness.

E. Rentals.

Rentals should be calculated by taking into account local conditions and without direct relation to the cost of
the houses. The lowest rental consistent with conditions will prove a large factor in establishing labor contentment.

F. Facts to be Ascertained as Necessary to a Decision in Respect to C1, C2, C3, D1, D2, D3, D4, and E.

1. Number of employees to be housed; 2. probable accessions; 3. number required for war emergency only; 4. proportion of men and women; 5. number of families and their range in size; 6. number of single men and women; 7. variations in race and character; 8. proportion of skilled to unskilled labor; 9. necessities for boarding houses; 10. necessities for providing meals only; 11. land available and its cost and relation to the service needed.

Each investigation should conclude with a suggested program covering:

A. In what manner funds can be utilized to the best advantage with respect to providing housing accommodations.

B. The ability of the community to provide the necessary schools, public utilities, recreation, churches, and the usual community accessories which are vital to the success of any building operation. Where these are inadequate or lacking, they must be made a part of the program.

G. Central Administration.

There should be established a central authority in charge of every phase of the Government’s relations to emergency industrial housing, preferably an independent commission.

No plans for houses, or subdivisions of land, or developments of properties in which the Government has any financial interest under such a program as has been outlined, should be permitted without the approval of the central authority.

Time is the essence of this program. It is impossible to overemphasize the necessity for taking the promptest action looking to the relief demanded by the necessity for speeding up production.

Industrial organization is the key to the duration of the war. The key to industrial organization is proper living conditions!

September 29, 1917.

Government Aid to Housing in War-Time—and After

By JOHN ILDNER
Secretary Philadelphia Housing Association

Six months of war have already produced social and economic changes so great in the present, so much greater in their prophecies for the future, that all pre-war social policies must be tested anew. There is truth in the expression often heard at the National Conference of Social Work last spring, that the social problems of war are but an intensification of the social problems of peace, and that principles proved by long years of peace experience should still guide our action. But while principles remain the same, the intensification of our problems, their mere increase in size alone, make necessary new methods in dealing with them. And to size is added an almost feverish urgency.

In this addition lies our danger. Our problems must be dealt with, not on an unprecedented scale, but immediately. Delay means such tremendous and immediate cost in life and treasure that we incline to close our eyes to any aftermath of possible mistakes. It is a time when men are prone to accept the Rooseveltian belief in quick decisions, even if nearly half the time wrong decisions. But decisions that are too far wrong cannot be quick, no matter how hastily they are made, for they must be unmade. We have already had some notable instances. So before making quick decisions it is well to consider such evidence as is at hand.

In housing, the war has accentuated our problem, and especially along three lines. Along all of these lines the problem had been becoming more and more accentuated during the two or three years preceding the spring of 1917. So we have had some opportunity to study it in its new phases. These are:

1. A rapidly increasing concentration of population in existing industrial centers.
2. The creation, almost overnight, of new industrial communities.
3. A rapid increase in the cost of building and of public services.

To these must be added, in many places, particularly the smaller ones, a spectacular rise in land values.

The stories of Bridgeport and of Flint are familiar and are typical of what is now taking place in many other industrial centers. Even Philadelphia, for all its size, has begun to feel the pinch. Two years ago it was overbuilt. Today it has few vacant houses for the wage-earner, and in some districts there is already overcrowding. Yet every day brings news of more factories and plants, of extensions to old ones. Meanwhile, the amount of new building construction is below normal. If present tendencies continue, and there is every evidence that they will unless energetic action is taken, Philadelphia must soon face conditions that will seriously threaten the health and strength of its wage-earning population. Like other old industrial centers it needs a firm enforcement of housing regulations. More fortunate than many, it has a housing code that, enforced,
will guard it against the worst conditions, but unless the provision of new dwellings keeps pace with the demand, it will face an impossible situation. This provision of new dwellings involves not only house construction but extension of sewer system and water mains, the draining of wet lands, road building.

The problem in new communities does not differ in kind from that in the established industrial centers except in the minds of those who have the making of decisions. They are prone to believe that old methods which have provided wage-earners' housing in established communities will prove equal to the present emergency, forgetting that higher costs of materials and labor have a deadening effect upon an industry whose product is not used up at once but continues to exist over a long series of years, during the greater part of which it may have to compete with newer buildings more cheaply erected. Nor do they, or any others except those directly concerned, yet realize the havoc that has been wrought in some of our city departments by the drafting of the younger men. Munitions makers are exempted for they stand directly behind the men in the trenches. But back of them stand the men whose work means the maintenance of public health. In the newly created communities all this is clear. Where there are no houses it is obvious that houses must be built. Where there are no sewers or water it is obvious that these must be provided. But in the established communities it is assumed that such things grow of their own accord.

In the old days before war booms we had methods of securing these essentials that promised to be adequate, methods the very slowness of achievement of which was an argument in their favor in a democracy where the people should be convinced before being compelled, methods which in spite of their slowness still bade fair to outstrip the evils against which they were applied. But now, with our hothouse growth, with the minds of the people distracted from a study of social problems at home by the great drama abroad, we are in danger of permitting evils to develop so fast that it will be impossible to rectify them, even after the return of peace. As it is, the needs of the National Government that are bringing these conditions about, upon the National Government must be put the chief responsibility for checking them so far as possible. This it can do in three days.

1. With every contract should go a requirement that the men who work on that contract be properly housed. In peace times the progressive community that sought to secure new factories made much of its advantages for the worker; the more progressive manufacturers gave some consideration to the way in which their employees would be able to live. The National Government has a greater interest in the worker than has the employer. It can not discharge its broken-down citizens. An evidence of this interest would stimulate the communities that thrive or the greater part of this rise would tend to check the rise—an advantage of the first magnitude from the housing point of view—and would supply funds for sewer and water extension and road building.

In our present emergency we are doing things that a year ago would have received scant consideration. Many of these we believe are temporary; with the return of peace we shall revert to old methods. But in no case can we be sure. All we can be sure of is that some of these emergency policies will become permanent. So, engrossed as we are now with meeting present needs, we should give some consideration to possible permanent results. Governmental advances of capital for house-building has long been practised in Europe, and was strongly advocated here before the war. It will meet an immediate need and, properly safeguarded, should be continued after the return of peace.
Augustus Saint Gaudens made his direct contribution to the report of the Commission of 1901 on the Improvement of the Washington Park System in the shape of six paragraphs dealing with Arlington National Cemetery. That report recognized the fact that by the construction of the contemplated Memorial Bridge, Arlington and Fort Meyer would become a portion of the park system of the Capital.

"Nothing," wrote Mr. Saint Gaudens, "needs proper supervision and planning more than the modern cemetery. . . . Instead of being a place to which one may go with a feeling of respect and peace, as into a church or sacred place, the eye and the feelings are constantly shocked by the monstrosities which dominate in all modern cemeteries.

"There is no doubt that the feeling which pervades the majority of people who erect monuments to their dead is of the tenderest; a sincere desire to do nothing even in the simplest form which is not fitting and in entire harmony with the feeling that prompts the erection of the memorials. This feeling, if properly protected and guarded, would lead to the harmonious and sober treatment so necessary in such places.

"A great example of the effectiveness of such restraint and guidance is the extraordinary dignity, impressiveness, and nobility of the cemetery at the Soldiers' Home and also in that portion of Arlington Cemetery set apart for privates..."
Example of the Confusion Created by the Intrusion of Heterogeneous Monuments in a Once Quiet Section

A Supreme Case of the Spoiling of the Soldiers' Quarters in Arlington
NEW PLANS FOR ARLINGTON NATIONAL CEMETERY

The Tomb of Peter Charles L’Enfant, Erected in Arlington by the American Institute of Architects. An Example of Quiet Dignity

Typical Monument for Arlington National Cemetery. Furnished to the Secretary of War by the Commission of Fine Arts. Designed by McKim, Mead, and White

Typical Stone for Arlington National Cemetery. Furnished to the Secretary of War by the Commission of Fine Arts. Designed by Charles A. Platt

Typical Monument for Arlington National Cemetery. Furnished to the Secretary of War by the Commission of Fine Arts. Designed by Charles A. Platt

and unknown dead. This is not attained by any large monuments, but by the very simplicity and uniformity of the whole.

“The trouble is that the majority of the monuments now in the cemeteries are produced by firms who make it merely a business affair. To remedy this it is absolutely necessary that the designs of all monuments, from the most modest...
to the most costly, should be subject to the approval of a commission composed of two or three architects and a landscape architect of the highest possible standing. They should lay out and design the cemeteries and establish rules for their proper supervision, and should control designs for future monuments in the cemeteries now existing.

"Nothing could be more impressive than the rank after rank of white stones, inconspicuous in themselves, covering the gentle wooded slopes [of Arlington] and producing the desired effect of a vast army in its last resting-place. Those spaces reserved for burials of officers, however, exhibit all the heterogeneous forms which disturb those very ideas of peace and quiet which should characterize a spot sacred to the tenderest feelings of the human heart.

"In particular, the noble slopes toward the river should be rigorously protected against the invasion of monuments which utterly annihilate the sense of beauty and repose. This is one of the most beautiful spots in the vicinity of Washington; it should not be defaced or touched in any way, and a rule or law should at once be passed forbidding the placing of any monuments on this hill."

No one of the pilgrims to be found, on any day, seated in contemplation of the memorial designed by Mr. Saint Gaudens in memory of Mrs. Henry Adams, in Rock Creek Cemetery, Washington, will question his authority on such a subject.

There is another more prosaic consideration. The admission to Arlington of any kind of a monument offered produces in this cemetery the domination of wealth as well as of bad taste. In a place where such distinction as is permitted should be governed by quality of service to the country, both wealth and favoritism vie with
eccentricity in forcing the attention of the visitor. So strong are these influences that they have already invaded even the soldiers' portions, so that the well-ordered ranks have been broken by replacing the simple stones with others which are marvels of bad taste. The effect is similar to that which would be made by permitting some of the soldiers on parade to appear in the non-descript garments of civil life.

Moved by the spirit of Mr. Saint Gaudens' forcible comments, the Commission of Fine Arts approached the Secretary of War, the Quartermaster General, and the officials directly in charge of Arlington. The response was immediate and in entire sympathy with the objects in view.

Rules have been promulgated limiting new monuments to 5½ feet in height and 7 feet in length, and providing that the designs shall be submitted to the officials before permission is given for their erection. Rock-faced and highly polished surfaces have been forbidden. Moreover, further substitutions in the soldiers' quarters are not permitted in cases where such changes would disturb the present good order. As was to be expected, these rules have brought forth objections from persons who desire the display of individuality or eccentricity or wealth, and sometimes, also, by well-intentioned people who do not or will not understand the spirit which has prompted the new regulations.

The Amphitheater now approaching completion will have crypts for the reception of the remains of those who have served their country in a signal manner, and hereafter there will be no excuse for conspicuous monuments. Probably the distinction of a place in this amphitheater will make it possible to free the slopes toward the river from the monuments which now deface them.
Riotous Conditions in the Officers’ Quarters at Arlington

The portions of Arlington occupied by officers’ graves can never be brought into entire harmony. There is, fortunately, a considerable area to the east which has not even been plotted. In the midst of this area the remains of Admiral Dewey will rest. Here, then, is an opportunity to lay out a considerable portion of Arlington and to improve it along lines dictated by good taste, dignity, and respect. Moreover, the enormous increase in the Army, and the certainty that the present war will have its dire results, makes it imperative to provide a much greater area than is now available. The time to begin this work of planning and enlargement is now, before emergency causes hasty action and thereby forces bad results. The Government has undertaken to provide burial-places for its defenders. It should do so in such manner as to show due respect both to them and to itself.

The best practice of today minimizes the monument and emphasizes the landscape. By the use of native trees and shrubs the place of the dead is made quiet and peaceful. In the newer portions of Arlington the quiet of hill and vale, of wooded slopes and green plains, should be preserved that the cemetery may perform its true function as a resting-place for the warrior and also for those who would pay respect to his memory.
The Barnard Lincoln to Go to London

In the discussion aroused over the proposal to send to London a replica of the statue of Lincoln by George Gray Barnard, the arguments for and against have been nowhere brought forward with greater clearness than in the editorial columns of the New York Tribune and the Philadelphia North American. From these editorials we reprint, on the following page, such portions as are possible within the space limits at our disposal, although each argument is so carefully built up as to suffer somewhat by abridgment. While it is unfortunate that the writers' names are unknown, since the personal equation, as it rests upon a general attitude, should always be known in valuing a criticism, these two opinions are so synthetic of the general arguments which have been advanced as to lose less in their anonymity than would otherwise be the case. The British Parliament have now accepted the Barnard replica.
In the controversy over the statue of Lincoln which it is proposed to erect in London, much heat has been expended in denunciation of Mr. Barnard’s production as a portrait. This is natural and proper. The sculptor’s uncouth conception of his subject offers a point of attack as vulnerable as it is obvious. But it is not by any means the only invitation to criticism. This episode revives in acute form the whole question of what we can only describe as artistic manners. These—if the testimony of civilized peoples in all ages is worth anything—are explicit on the dignity essential to a public monument. Consider the largeness, the grandeur, of every great statue that has really withstood the test of time. Consider the most impassioned, impersonal character of Greek sculpture and the severe stateliness of Roman, the nobility superadded to the realism of heroic statues in the Italian Renaissance, and the measured, orderly style predominant in modern France. This uniform tendency through the historic schools has never been determined by any vulgar triumph of academic formulas over individual creative genius. It has expressed, simply, mankind’s innate sense of things, the natural human conviction that a public monument, as distinguished from the statue in a private gallery or from the purely decorative work of art, should be, above all things, monumental.

We are not playing with words, bringing “monumental” forward as a sort of esoteric mumbo jumbo, behind which we might mean anything we chose. This particular word has not only a fixed meaning, but certain inalienable associations. The same lexicographer who defines a monument as “anything erected to perpetuate the memory of a person or an event,” is careful to indicate that what is “monumental” is, among other things, “impressive,” “sober,” “as a sort of esoteric mumbo jumbo, behind which we might mean anything we chose.”

The very fact that Barnard’s Lincoln does accentuate a figure not of Illinois and yesterday, but of America and all time?

If a Lincoln is to stand in the shadow of those venerable walls (London), by all means let it be Barnard’s Lincoln. Not because it is Barnard’s—but because it probably is the nearest possible approach to that rarest of achievements in imagery—the exposition in one figure of both the physical and the spiritual stature of the subject.

If there is to be shown in the land of Magna Charta a likeness of the great apostle of freedom, let it be as nearly as possible a real one.

For if ever there lived a man who hated even the small and commonly overlooked deceptions, that man was Lincoln. It would be hard to conceive a personality more free from any desire to look or seem what it was not. Indeed, it is one of the bases of his greatness that he had no affection for voice, glance, or manner. The very essence of his nobility is to be found in his own complacent acceptance of his gnarled physical nature. It was this as much as anything else that lent force and power to him.

Already the world is overweighted with sand-papered “ideal” effigies of men and women whose work and worth make them worthy of such perpetuation.

Why any American should—how any American could—object to the setting up in other lands of this real likeness is not easy to understand.

If it be that the showing of big bony hands, broadened and toughened by grappling the ax and lifting heavy burdens, should displease peers whose manual digits are soft and tapering, let it be remembered that most of the common people Lincoln loved and blessed are themselves possessed of hands akin to this kind and that their hearts must be quickened and their souls uplifted by the sight of such in one whose name is immortal.

If the idea of these objectors is to export some fictional figure expressive of freedom, let them plead for an idealized Goddess of Liberty, which will mean just as much in front of the houses of Parliament as it does on the quarters and halves and dollars of our national currency. But if we are going to send a Lincoln to voice silently the meaning of freedom, let us send that Lincoln who lived its meaning and through whom the God of freedom made manifest to mankind the essentials of democratic personality.

The very fact that Barnard’s Lincoln does accentuate the homesickness and soul-kinship of the man is the best argument in behalf of its selection for this purpose. It is that which makes of this unique likeness an inspiring and enthusing influence. For a majority of those who will pause before it in London will be homely men, and made more so by years of toil and struggling. And these may be led by this Lincoln to a larger, truer estimate of their own and their children’s possibilities.

On that face and in that figure, as Barnard has preserved them for all time, is written enough to tell the most ignorant peasant something worth knowing about the humanity of democracy. If this is not the purpose behind such a gift, then let the gift remain ungiven. And if there be any higher purpose, let some spokesman step forth to outline the manner in which it may be expressed.
Eastriggs

AN INDUSTRIAL TOWN BUILT BY THE BRITISH GOVERNMENT

EASTRIGGS is another of the British Government’s housing operations and of quite a different character from Well Hall, illustrated and described in the September Journal. Whereas Well Hall consists entirely of permanent dwelling houses, Eastriggs consists also of temporary and semi-temporary huts, permanent cottage shells temporarily connected and used as hostels, and temporary hostels of various sizes. Altogether, the buildings are of four classes: (1) Huts, (2) cottage shells used as hostels, (3) completed cottages and staff houses, (4) shops, schools, churches, recreation buildings, and other accessories of a small town.

The huts of Class I include all buildings of temporary or semi-temporary character, built of concrete in blocks or slabs and wooden framing covered with stucco or weather-boarding on the outside and lined with wallboard or asbestos sheets on the inside. These huts are of three types: (I) Pairs of semi-detached family huts each having three bedrooms, living-room, scullery, bath, and other accessories. (II) Small hostels containing ten beds, which may be used for single lodgers or for a family taking in lodgers. These are readily converted into Type I and are very popular, being used by operatives, members of the staff, and often as larger houses by officials of higher grade. (III) Large hostels in which about 100 single men or women may be lodged, either in open dormitories or in dormitories fitted with cubicles. Inability to fix hours or prescribe the character of occupancy soon developed great objection to the use of these large hostels, and many of them are today
only partially occupied, even in the face of serious congestion in the locality.

Cottage shells temporarily used as hostels, Class 2, can easily be converted into permanent family cottages. These were adopted because it was found that the cost of temporary buildings as described under Class 1, was, after taking into account the necessary expenditures for water-supply, drainage, and road-work, so little less than that for permanent buildings that it was poor economy to erect temporary houses except only where urgency of the short time available demanded it.

These hostels usually consist of groups of three blocks of four cottages each, the blocks being connected with temporary corridors and arranged either in a row or around three sides of a quadrangle.

The completed cottages and houses, Class 3, are quite similar in plan and construction to those of Well Hall, which were illustrated in the Journal last month.

Under Class 4 are included such buildings, outside of actual houses and dormitories, as may be needed for the life of a community center. These were built as part of the housing scheme where the adjacent already existing town did not conveniently provide them. In this class are included not only schools, churches, and recreation buildings, but shops, bakeries, laundries, and central kitchens.

It is very interesting to note that even the most temporary of the Eastriggs buildings, as shown in the illustrations of the Class 1, Type I, huts, although they are simpler in design, will compare very favorably in construction with permanent small houses of the cottage and bungalow type in this country, and are even better than many of these.
CLASS 1, TYPE III. TEMPORARY HOSTEL FOR NINETY-SIX MEN

EASTRIGGS

CLASS 1, TYPE III. TEMPORARY HOSTEL SHOWING FOUR ALTERNATIVE ARRANGEMENTS OF CUBICLES

EASTRIGGS
CLASS 2. COTTAGE SHELLS USED AS HOSTEL
TYPE VII C ENLARGED FOR HOSTEL.
SCALE EIGHT FEET TO AN INCH

FRONT ELEVATION

BACK ELEVATION

GROUND FLOOR PLAN

FIRST FLOOR PLAN

CLASS 2. COTTAGE SHELLS USED AS HOSTELS

EASTRIGGS

GROUND FLOOR PLAN

FIRST FLOOR PLAN

CLASS 3. PERMANENT COTTAGES

EASTRIGGS
Class 2. Cottage Shells Used as Hostel

Class 3. Permanent Houses
COTTAGE SHELLS AS HOSTEL.
Scale, Eight Feet to One Inch.

Front Elevation.

Roof Plan.

End Elevation.

Note: Temporary Work shown by Hatching.

Class 2. Cottage Shells Used as Hostel.
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Architecture and Civilization

At the Sixth Informal Conference of the Royal Institute of British Architects on the subject of education, there took place a discussion which bears no less lightly upon the problem in the United States than upon that in England. The war has accentuated that slow dawning perception of the whole problem of education as applied to both the practice and the enjoyment of architecture, or to anything else, for that matter, for the world is now commanded to think as never before. Under the influence of this stern and well-deserved edict, by the rays of that light which is now borne homeward and heartward from the flaming path of death and destruction, shall we not first of all decide forever to relegate to oblivion that pompous, snobbish, supercilious phrase “Educating the Public”? Shall we not, on the other hand, approach the problem of our own education with a renewed appreciation of our careless ignorance, and in seeking to revitalize our educational system, let us be humble and admit that we are only students, even the wisest of those who look patronizingly upon their less “educated” fellows. No man who has not braved the mechanistic hell of modern warfare ought ever to dare again to look contemptuously upon that great public which, lacking though it may have been in an appreciation of even the least of the arts, has given evidence of its sublime courage in defending those things in which it has had only the minor share.

From the discussion to which we have referred, we reprint the following from the Journal of the Royal Institute of British Architects:

Mr. W. E. Vernon Crompton [F.]: * * * * *

The relation of civilisation and architecture is one of cause and effect; the intellectual life or civilisation will give the intellectual architecture. The sensuous life will produce the sensuous art, and so on. If the architecture of the present time is anarchic it shows that the civilisation of our time has muddled ideas and an irrational way of thinking. To seek to improve the architecture of this country by improving the education of architects is excellent as far as it goes, but it is a more essential if less obvious duty, not only as citizens but as architects, to put our energies into altering ideas about elementary and public school education and all those other matters which direct the currents of our civilisation. Only by so regarding things can we avoid the error of putting the cart before the horse.

Although the relation of life and architecture is one of cause and effect, it would be a mistake for us to consider that the condition of architecture in any country at any time is a primary effect of life or civilisation: it is merely a secondary effect produced by secondary causes. If we are dissatisfied with the condition of architecture and wish to get at the real reason for its lamentable state we must pass over these secondary relations, such as the influence of the competitive contract system, the decline of technique in the crafts, building for the purpose of profiteering and dividends, etc., upon architecture, and get back to those that are primary. This is what I shall try to do. * * *

If we wish to have a clear idea as to what is wrong with architecture at its root we must cease to confine our discussions to styles, education, or aesthetics, the disorder of our streets, sound building, etc., for to do so would be merely to consider effects, leaving causes untouched. That which has thrown architecture off its balance is synonymous with that which has dislocated our civilisation.

As architects in search for this economic cause, let us recall to mind the nature of eighteenth-century civilisation. We see there the gradual extinction of an aristocratic class with the power and wealth, having a modicum of scholarship sufficient to keep alive a tradition which it was able to impose upon a people who had for the most part a definite status. Everything was homogeneous and oriented in the same direction: the means of the civilisation—regarding the arts of building—were sufficient for the end in view. At the present day there is no aristocracy to speak of, but a plutocracy with no particular scholarship and no particular tradition: a plutocracy unable to impose anything but a stray fashion upon a common people, who, in their turn, are mainly wage-earners, without status.

It is difficult to find a condensed and general formula to describe the economic cause for this change, a cause behind which it is not necessary, here and now, for us to go; but it may be sufficient to formulate the cause by saying that since the latter half of the eighteenth century man’s control over certain physical forces has developed with extreme rapidity and at the expense of his powers in other directions. Hence the want of balance, the dislocation in our civilisation, and the chief reason—speaking in general terms—of the troubles we are discussing. Bergson, in L’Evolution Créatrice, touches upon this idea as follows: “Nos habitudes individuelles et même sociales survivent assez longtemps aux circonstances pour lesquelles elles étaient faites, de sorte que les effets profonds d’une invention se font remarquer lorsque nous en avons déjà perdu de vue la nouveauté. Un siècle a passé depuis l’invention de la machine à vapeur, et nous commençons seulement à ressentir la secousse profonde qu’elle nous a donnée. La révolution qu’elle a opérée dans l’industry n’en a pas moins bouleversé les relations entre les hommes. Des idées nouvelles se lèvent. Des sentiments nouveaux sont en voie d’éclorcer... Elle servira à définir un âge.”

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The economic situation arising from man's control over certain physical forces, developing with extreme rapidity and at the expense of his powers in other directions, coming as it did in a relatively sudden manner, resulted in giving great wealth to some and, as a consequence, poverty to others in directions where there had been no great wealth or abject poverty previously. Wealth accrued to a class of the community to whom the planning of Bath and Bloomsbury made no appeal; in whom the down-at-heel contrivance of modern life produced no jar.

Considered economically, wealth is power over the lives of others; considered also economically, civilisation is a method of distributing wealth. Understanding this will enable us to appreciate that herein lies the factor which brought about the gradual extinction of the aristocratic influence of the eighteenth century—the Bladescro tradition of Wells—that aristocratic tradition which gave us Bowood and Prior Park, a tradition which can never return in spite of the hopes of some. Herein, also, lies the factor which has produced Holborn and the Strand, which has destroyed the craftsman with his status under the aristocrat and has given us the hand under the plutocrat. All this is of vital importance to architecture; but, judging from the amount of attention given to the subject by this Institute, it might not concern us at all. We have the means whereby an income of £50,000 can be accomplished, but we have not the means whereby it can be spent properly. We have the means whereby half a million can be earmarked for building, but we have not the means whereby to avoid sweating our labourers.

I do not overlook the fact that similar conditions have prevailed in civilisations which produced great art. But if the matter be studied in detail, I think you will find that the difference in degree between these present and past phases is so great as almost to amount to a difference in kind. All civilisations can withstand, and have withstood, the strain arising from unstable conditions up to a point; that point was passed in England early in the nineteenth century. Hence the result! Architects must grasp clearly and without evasion, shuffle, or compromise the nature of the economic cause which has produced the primary effect of dislocation which in turn produces the secondary effect upon architecture.

By all means let us hammer at the political administrators and the municipal authorities, but in nine cases out of ten you will find ignorant and unsympathetic ears and eyes, because they are the ears and eyes of those who from their elementary or public school life onward have not been bred to attach much importance to many of those things which, I trust, we in this room consider as vital to our survival as a great nation. The machinery is there to do a great deal, but not the knowledge or goodwill. The whole lump of things must be leavened, but the day has gone by when the upper portion of the lump can be leavened and the lower portion left.

Half a century of spade-work is ahead of us in a State at present but partly democratised, slow work with meagre results, before a foundation can be prepared upon which a civilisation can be raised which will not misbehave itself continually and be open to Professor Lethaby's just indictments. The aristocratic age is gone for good; in the democratic age before us we shall not be able to produce excellent architecture unless the people live an excellent life. It is, therefore, time for this Institute to lay aside its aloofness and to go down into the arena as a propagandist body anxious to ally itself with engineers, master builders, and trades unionists, having a lively faith which it should set forth in a tractarian literature thoroughly well written. We have spread ourselves very agreeably over the English Renaissance, the formal garden, and suchlike important pleasantries; we should now voice our convictions not only upon the five or six excellent suggestions mentioned by Professor Lethaby, but also upon the relation of the architect and his work to all the vital economic problems by which we are being stifled.

Architecture for some time past appears to have slipped off the true line of the evolution of things, partly because great architecture cannot exist in an irreligious civilisation, but partly because we ourselves have shut our eyes to the reality of things.

The Royal Institute of British Architects Extends Its Hospitality to American Architects on War Service Abroad

To Members of the American Institute of Architects:

I beg to call your attention to the offer of hospitality extended to members of the Institute by the Royal Institute of British Architects, notice of which is conveyed in the following letter.

W. STANLEY PARKER, Esq.
Secretary,
The American Institute of Architects
Washington, D. C.

Dear Sir:

In sending you the letter from the Council of the Royal Institute of British Architects a few weeks ago expressing the satisfaction of the architectural profession throughout the British Dominions at the entry of America into the war, I was requested to write to you independently to offer the hospitality of the Royal Institute to American architects on military service who may find themselves on this side of the Atlantic and within convenient reach of London. I am to state that the Council has much pleasure in conferring upon them the privileges of membership of the Institute as far as the use of the Library and premises is concerned and the attendance at meetings and other public functions. The use of the Library would include the right to borrow books from the Loan Collection. The Council would be greatly obliged if you would kindly make this offer known to the members of the American Institute. I should add that it will always be a pleasure to the officials of this Institute to be of use to American architects and to render them every service in their power.

I am, dear Sir,

Yours faithfully,

G. NORTHOVER,
Editor Journal R.I.B.A., on behalf of the Secretary.

Any member of the Institute in military service abroad may be sure of finding a cordial welcome if he takes advantage of this thoughtful and gracious action of the Royal Institute.

Although it is not essential, as any means of identification will be adequate, I will be glad to furnish any member who so desires with a letter certifying his membership in the American Institute of Architects.

WILLIAM STANLEY PARKER, Secretary.

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Robert Swain Peabody

Elected to Membership 1874; to Fellowship 1889.

President of the Institute 1900-1901.

Died, Peach's Point, Marblehead, Mass., October 3, 1917.

Robert Swain Peabody, past President of the American Institute, and the most distinguished of the older generation of architects, died at Peach's Point, Marblehead, on October 3. Mr. Peabody, apart from his skill as an architect, was a facile draughtsman, a great lover of the sea, and particularly happy in his ability to draw all that moved on the waters. It was peculiarly fitting that he should have died in the home he loved, on the shore of the picturesque harbor of Marblehead.

Mr. Peabody's career as an architect was so long and so varied that it is useless to attempt either to catalogue his works or to mention those most prominent in a list which covered every class of buildings from cottages to works of monumental size; nor would it help to explain the man and the artist. Much of the work which one fancies he loved best was unimportant from a worldly standpoint. As with all true artists, his love for his work meant often that his true personality and charm appeared most in work of small money value.

He was born in New Bedford, February 22, 1845, a son of the Rev. Ephraim Peabody who from 1846 to 1856 was minister at King's Chapel. His mother was Mary Lane Derby; so there was the best New England stock on both sides. He graduated from Harvard in 1866 and later served his alma mater fifteen years on the Board of Overseers and did most valuable service for the Department of Fine Arts and the School of Architecture. After graduation he studied in France and England and was among the early group of Americans who discovered for us the Ecole des Beaux-Arts—that school which has done so much to form and develop our power to design.

On his return in 1870 he associated himself with John G. Stearns, and that partnership was practically terminated only by the death of the two partners, for Mr. Stearns died the Sunday before Mr. Peabody. This firm then was active for nearly fifty years, and during this time, which was a most vital period in the growth of the profession, Mr. Peabody had been in many ways a leader, and always in the forefront of every movement toward better standards of design. He was a lifelong friend of McKim, and both were in that small group of architects who put the stamp of high achievement on the World's Fair at Chicago. The monumental group about the grand court marked a very clear step in the forward progress of the arts in the United States, and Mr. Peabody was a force in this great initial step.

It is sufficient evidence of Mr. Peabody's disinterested work for the profession he loved and for the arts he practised, to say that he had been not only President of the Institute and President of the Boston Chapter, but also for years the head of the Park Department of Boston, an unpaid position, and largely responsible for the report of the Committee on Public Improvements with its far-seeing suggestions and plans for transportation, the development of the suburbs, and the development of the port of Boston. Many of the projects then initiated he lived to see take form. Despite his seventy-two years he was before this last fatal illness a young man in every way, full of the joy of living, and a constant inspiration to all with whom he came in contact. When his serious trouble began, and he was for months recovering from an operation at Johns Hopkins Hospital, his vivid imagination carried him away to all the places he had known and sketched abroad, and he spent his convalescing days in drawing memory records, a set of sketches full of his characteristic vigor and executed with his sure touch. One mentions this because it is so characteristic of him and shows the true courage.

It was equally characteristic of him that, as soon as partial restoration to health made it possible, he resumed his duties in the Park and Recreation Department and this very spring put through important changes in the Common to recognize the great changes made in the State House by the addition of the wings.

He leaves a host of friends behind him, not only those who have passed through his office, but all artists who know him, who will always remember him for his buoyant enthusiasm, his joy in his profession, and his quick sympathy with all. It is not only his works which will live after him; his influence on others is even more valuable and more enduring.

R. CLIPSTON STURGIS.

John Goddard Stearns

Elected as a Fellow, 1894

John Goddard Stearns died at Duxbury, Mass., September 16, 1917. He was born in New York City, May 18, 1843, but lived most of his life in Brookline, Mass. He was graduated with the Class of 1863 from the Lawrence Scientific School in Cambridge.

December 5, 1866, he married Ellen Elizabeth Abbott, whom he survived by less than a year. A son, Frank A. Stearns, associated recently with his father in his profession, and a daughter, Mrs. William H. Young, of Brookline, survive him.

Mr. Stearns had several years' experience in the office of Ware and Van Brunt. In 1870, in Boston, began his partnership with Robert S. Peabody, which, under the name of Peabody and Stearns, lasted for forty-five years.

Mr. Stearns' contribution to the firm and to his profession was of signal importance. His counsel in matters not strictly within his own chosen province, his sound business judgment, and his genius for quick decision and direct statement were always to be depended upon. He had not only the training of an engineer but also the true engineer's instinct that could "sense and overrule," and combined with these an appreciation of order and proportion in planning and design that made him the true architect as well. He was untiring in his attention to the superintendence of the many important works that his firm designed and constructed. He saw not only that the work
was going right, but also that it did not go wrong. He often said that the secret of successful superintendence was to know that something must be wrong, to find it, and to make it right.

His great service to the firm and to his profession lay in this insistence on the quality and thoroughness of the work done under his direction. The specifications, drawings, and contracts must be so complete as to enable him to carry the work through as designed without recourse to any other authority than the "documents." Such an attitude, simple and commonplace as it seems at present, required, fifty years ago, a marked change from the loose relations that had often, and perhaps as a rule, existed between architect and builder. Plans and specifications had generally been so incomplete that no one could say when they were complied with, much less insist on a high standard of performance. To make a firm stand and to insist that drawings and specifications should say what the architects meant and the owner was entitled to (and that only), and that what was thus set forth should be done, required thorough and expert knowledge of construction and of building materials and methods, a considerable degree of tact, and, above all, the power to insist on the right, which only an honest man can exert.

Mr. Stearns brought these qualities to his task. He was never willing to secure good work by asking it as a favor. He was a just man. He would always forgive an honest mistake and give freely of his time and advice to correct or overcome it. Builders and their assistants, as well as draughtsmen (many of them now successful architects), gratefully testify to the value of their experience with him as director and instructor.

Mr. Stearns was not so well known personally to members of his profession, especially in his later years, as many architects of lesser accomplishment. His home, his strong family affections, and his warm lifelong friendships made up his chief and absorbing interests.—F. A. K.

Henry Vaughan

Because for a long time it was my privilege to be employed and instructed by a very remarkable personage in American architecture, the late Henry Vaughan; and because, besides Mr. Robert Casson and Mr. John Evans (who always had his profound respect and friendship), I was one of the very few who came into intimate personal relations with him, I desire to utter a word of tribute to a man who succeeded in America notwithstanding his direct and intentional violation of American methods.

Henry Vaughan came to the United States as a stranger without friends, influence, money, or "pull," having given up a prominent, important, and remunerative position in England. He apparently buried himself in the two little rooms over the Criminal Investigation Department in Pemberton Square. He made no effort to get work; yet there was seldom a time when he did not have all that he could do. His attitude may be best explained by the following anecdote.

Filled with the American desire to "make things hum," I went to him once with advance information concerning a new church building, a "good job,"—and told him if he would make a preliminary sketch for the proposed building. I can remember now my disappointment and surprise when he merely replied, "Why, certainly not. If my work is good, and they want it, it will come to me."

His life was apparently lonesome in the extreme. From his rooms to his office, from his office to Marston's restaurant and back again, was practically his entire life. According to American standards it was dull, uninteresting, dreary. It was, however, full of a sweetness and richness which, while un-American, was still very good for America.

Although he himself spent practically every evening in his office, he never asked his draughtsmen to work overtime, no matter how great the pressure of work. Once, when I knew a set of drawings to be overdue, I expressed to him my willingness to come and work at night. He thanked me but declined my offer. However, determined to finish my own elevation at least, I returned to the office. I had hardly seated myself at my board before he appeared in the doorway saying with almost anger, "I told you not to come back." My explanation that I wanted to finish my own drawing caused a wonderful softening in his cold, steel-blue eyes; but, though thanking me, he said, "You scared him away." Some hours afterwards I heard him whisper from his private room, "Barton, come here." And going in, I found him at his board indeed, but not drawing. He was pushing crumbs from a roll (which he always brought from his dinner) out to a little mouse which, sitting upon his T square, seemed perfectly contented. I think my first intimate acquaintance with Henry Vaughan began upon that night when I also approached the drawing board without scaring his mouse away. And later, months afterwards, after he had accepted me as a nightly co-worker, when I called to him to come to me, and he found one of his mice eating on my drawing board, the last barrier between us was swept away.

I realize that I learned a large proportion of what little
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I know of architecture from Henry Vaughan, and I am grateful to him for that. But I learned from him certain essentials of life, so far removed from American thought and custom as to be difficult of attainment by American youth.

From him, and later when in London I became acquainted with the traditions of the office of Mr. George Bodley, his old master, a new understanding of work and of life came to me. The memory of these men, unobtrusively working in silence for the good, the true, and the beautiful, has been a constant help throughout many difficulties. And the efforts of such can never fail to stretch out over the world for the maintenance of the highest standards of the profession.

GEORGE EDWARD BARTON.

(From the Bulletin of the Boston Society of Architects)

Institute Business

Meeting of the Board of Directors

A meeting of the Board was held at Cleveland on September 6 and 7. There were present President Mauran, First Vice-President La Farge, Second Vice-President Wilcox, Secretary Parker, Treasurer Waid, Directors Coolidge, Faville, Favrot, Fenner, Jensen, Lubschez, Kimball and Sellers, the Executive Secretary and the Editor of the Journal. The following is a brief digest of the minutes of the meeting:

Disciplinary Procedure in Chapter By-Laws

Formal approval was given to the principle proposed that Chapter executive committees be empowered to dispose of cases not involving expulsion or suspension; when either of these penalties is involved, the Committee must report the case and its investigation thereof to the Chairman of the Institute Committee on Practice. But in all cases, regardless of or in lieu of such action, there may be a final appeal to the Committee on Practice of the Institute as provided in its By-laws. Chapter committees must report the record of all investigations and the decisions made to the Secretary of the Institute for record. The Secretary was instructed to prepare and submit for definite approval a clause covering the above principles.

Contracts and Specifications

The General Conditions of the Contract (Standard Documents) have been revised by the Committee and the revisions have received the approval of the Board. The General Conditions of the Contract, as the Third Edition, all of which the Board has approved. The Agreement between Owner and Architect, Fee Plus Cost Basis, with an accompanying circular of explanation, has been approved by the Board and will soon be ready for general use.

The proposed Form of Agreement between Contractor and Owner, Fee Plus Cost Basis, has been circulated as a first draft, and a second draft is now in preparation.

The proposed "Standard Indications of Materials for Architectural Drawings" is now in its third draft form. It appeared in the September Journal, with explanatory text, and a final form will later be submitted to the Board for approval.

The Handbook on Architectural Practice has been distributed, as a first draft, to members of the Board, members of the various Institute Committees, professors in architecture, and the presidents of Institute Chapters. The Secretary stated that Messrs. Day, Medary, and

Education

The work of the Committee has consisted chiefly of correspondence bearing upon the schools of architecture and their work, entrance examinations and degrees, and upon the subject of general education in the arts in preparatory schools and colleges. With the advice of President Mauran two additional subcommittees have been arranged to cover the South and Southwest, thus making in all thirteen subcommittees on education. As long as the war continues, educational work will be much interfered with by lack of instructors and scholars, and it is doubtful if the Committee can make any definite advance in this work until conditions are more nearly normal.

Competitions

The report commented upon the inquiry from the Boston Society of Architects as to whether the responsibility of applying discipline to Institute members who have taken part in unauthorized competitions rests primarily with the local Chapter or with the Institute, and upon the reply which has been made to the effect that the general custom has been to bring violations of such a nature before the Committee on Practice of the Institute where the offenders were Institute members. Other inquiries of the like nature from other Chapters have been answered in the
same way. Proposed competitions in Buffalo, Kansas City, New York, South Carolina, and Wisconsin were reviewed. The report also referred to the circular proposed by the Minnesota Chapter and intended to apply to work of lesser magnitude. The matter is still pending for final consideration. In conclusion it was stated that the duties of the Committee are largely becoming advisory, which speaks well for the constructive work done by the Committee in the early years of its service. The effort has been made to devise some practical method of carrying out the Convention suggestion that the Committee collect and preserve documents relative to competitions which have been satisfactorily conducted under the Institute's Code—such documents to be used for reference purposes. While the Committee has been successful in filing much correspondence and many programs as finally approved, it has found considerable difficulty in carrying out the plan. As a rule, the subcommittees are faithful in performing their work up to the approval or rejection of a program, but after the award has been made it is sometimes impossible to get a copy of the program. It has been the policy to leave the solution of local problems to the subcommittees wherever possible, although the effort is made in each case to point out special features which require attention.

Publication

The report reviewed the excellent condition of the Journal finances and the constant and steady growth, which has been unaffected by the war. In reply to a question as to the Structural Service Department, Mr. Whitaker explained the keen interest which had been aroused in this work, especially by those at work upon emergency construction for the Government, as evidenced by their cooperation in the columns of the Journal. Foreign architects, societies, and institutions of research have evinced a remarkable interest, and plans are under way for developing a more intimate relationship in the matter of scientific research in building materials. The Committee's report reviewed the publication of "City Planning Progress," and Mr. Whitaker explained at length the plans which the Journal has under way for increasing its usefulness, among which is the departure for England of Mr. Frederick L. Ackerman as the Journal's special correspondent in Europe.

Fire Prevention

The work of the Institute has not been vigorously prosecuted because of the pressure of other work on the Chairman, who is serving as a member of the Committee on Industrial Safety of the Council of National Defence. The most important thing done by the Committee was attendance in person by Messrs. Plack and Kohn at the annual meeting of the National Fire Protection Association, in Washington, early in May. Mr. Boyd and Mr. Waid were also present and took part in the proceedings, and Mr. Waid was elected First Vice-President of the Association.

Preservation of Historic Monuments

Mr. Horace Wells Sellers, Chairman, reported that there have been no further developments in the proposed Washington Park project. The resolution of the Board at the January meeting, which was presented to the International Forestry Conference, was not given extended consideration on the ground that the project was a local issue.

The Committee has kept in close touch with the Jackson barracks development at New Orleans, and from recent advices it appears that the War Department has called upon the Levee Board to adopt a plan for levee construction that will encroach as little as possible on the barracks property. The Committee is taking steps to obtain full support for the U. S. Engineers' plans, which are opposed by the Levee Board.

The Committee commends the action of the New York State Association of Architects in suggesting prizes from the Institute to those students in architecture who make surveys and drawings of ancient buildings which may be recommended by committees of the various Chapters of the Institute. This is in line with a custom long established by the Philadelphia Chapter.

The Committee is also studying the situation at Niagara Falls, where the demand for increased power threatens a serious decrease in the flow.

Town Planning

The most important accomplishment of the Committee during the year was the preparation of "City Planning Progress, 1917."

The cooperation of the Journal of the Institute in many ways expedited the publication.

The Committee believes that the volume has been a great success and that it has reflected credit on the Institute.

Restoration of the Octagon Stable

The report of the Building Committee dealt with the tentative cost of repairs to the stable. Mr. Fenner, in presenting the report on behalf of the Chairman, then stated that the sum necessary therefor had been contributed by three members of the Institute, and that Mr. Glenn Brown had offered to supervise the work without remuneration. The thanks of the Board were extended to the contributors and to Mr. Brown, and it was ordered that the work be begun without delay.

Mr. Waid raised the question of the deterioration of the sandstone facing on the exterior walls, and it was directed that arrangements be made, if possible, for their repair.

Registration

Mr. Waid, reporting for Mr. Bannister, reviewed the general situation with special emphasis upon the educational requirements which should ultimately prevail as a basis for admission to practice, and expressed the hope that model standards of educational requirements should be formulated by the Institute, a work which is already under way in cooperation with the Committee on Registration.

State Building Methods

Mr. Favrot reported at length upon the work of this Committee and renewed the necessity of a definite uniform building policy for the country.

[Note.—It is expected that a fuller statement on this question will be made by Mr. Favrot in the columns of the Journal.]

Advertising

Mr. Kimball reported for this Committee, reviewing the origin of the Committee's appointment and of the incidents which culminated in the desire of the Board to clearly define the position of the Institute on advertising by its members. The Committee had agreed upon the definition of undesirable advertising as "self-laudatory publicity procured by the person advertised or with his consent."

Mr. Kimball then presented his own report, which recommended that the subject of advertising be dropped.
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from among the punishable offenses in the Canons of Ethics, and that the Circular of Advice be revised accordingly. The report was the subject of a lengthy discussion, and it was resolved that in order to determine just what is to be done the Board shall call upon the officers of all Chapters to report every case of infringement of the law in order that the Canon may be fully enforced, and that the question should be further considered by the Board and brought to the attention of the next Convention.

[Note.—The Board adopted two resolutions on advertising in professional treatises and in architectural catalogues. These were printed in the September Journal.]

Institute War Service

President Mauan reported that committees of the Institute were now at work upon plans for the marine barracks at Philadelphia and on work at the Brooklyn Navy Yard.

President Mauan also reported upon the important work in Camouflage undertaken by Major Evarts Tracy, an account of which appeared in the Journal for August and it was

Resolved, That the Board of Directors of the Institute desires to express to Major Tracy its interest in the splendid work which he is doing, and to say that the cooperation of the Institute may be counted upon at all times, and that it congratulates him upon his appointment and upon the program which he has initiated and wishes him the fullest success.

The register of architects and draughtsmen prepared under the direction of Mr. Tracy's Committee on Preparedness has been kept intact at the Octagon, and its value is being proven more and more.

[Note.—The Institute is now issuing a call for a considerable number of architects and draughtsmen for service in France with the Aviation Corps, and it is expected that the services of architects will be in constantly increasing demand both at home and abroad, in view of the vast construction work which is now under way and in process of planning.]

Letters from the R.I.B.A.

The President formally presented the letter from the R.I.B.A. (published in facsimile in the Journal for August), and also a later letter (printed elsewhere in this issue), together with the reply to the former. The letters were deeply appreciated by the members of the Board, and the Secretary was directed to acknowledge the second letter and to express the thanks of the Institute, on behalf of the architects of America, for the cordial and generous sentiments of hospitality contained therein.

Emergency Government Building at Washington

President Mauan reported at length upon the various projects which have matured in Washington in the face of the serious congestion which has prevailed since the outbreak of war. All of these projects were carefully considered, and it was

Resolved, That while the Board of Directors of the American Institute of Architects is deeply appreciative of the serious congestion in the departments in Washington, and recognizes the necessity of giving the quickest possible relief, it cannot but be gravely concerned lest the effort to provide the needed space shall permanently injure the appearance of the Capitol and perhaps make impossible the ultimate development of the Washington Plan; and it therefore urges upon Congress that except in cases where emergency leaves no alternative, and then only upon approval of the plans by the Commission of Fine Arts, no permanent building be erected by the Government until the Public Buildings Commission, now engaged in studying the present and future needs in order to report a comprehensive program for erecting public buildings in Washington, shall have laid its report before Congress.

[Note.—An account of recent events in this connection appears in our editorial pages.]

The Treasury

The Treasurer reported that the financial condition of the Institute was very satisfactory and that collections had been better than during the same period last year. It was resolved that the dues of those engaged in active service in the Army, Navy, Marine Corps, Aviation Corps, Red Cross and related services be remitted for the year beginning with January, 1918. The Board has no power of remission for a longer period, but it is to be understood that such remissions will be made from year to year so long as the war lasts.

[Note.—The Journal has already notified subscribers that it will be sent free to those on service during the war, or retained at the Octagon for transmissal when requested.]

Some slight revisions of the budget were made in view of the emergency expenses of the Preparedness Fund.

Standard Chapter Constitution and By-Laws

The Secretary presented the final draft of this document, which was approved and its issuance to Chapters authorized.

Entertainment by the Cleveland Chapter

On the second evening of the meeting, the Board of Directors, together with architects from the Chapters in Ohio and nearby states, were the guests of the Cleveland Chapter at dinner. After the address by President Mauan and the subsequent exchange of greetings by the guests, the members of the Cleveland Chapter provided a whimsical entertainment, wherein the spirit of Michaelangelo returned to earth, seeking a brother architect upon whom he could lay his long unworn crown of laurel. His search for such a one offered the vehicle for many amusing comments upon the qualifications of those present, and the part was admirably taken by Mr. Richardson, with Mr. Briggs as interlocutor. On the following morning the Chapter acted as host in an excursion throughout the city, ending at the Mayfield Club for luncheon, which concluded a meeting of much pleasure.

At a meeting of the Brooklyn Chapter held September 24, the following resolution was adopted:

"Resolved, That every member of the Brooklyn Chapter be notified, that, in the event that he be called into the military service of the Government, the Chapter will provide for the continuance of his business on a basis of cost, without commission for such services."

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## Structural Service Department

D. Knickerbacker Boyd, Associate Editor

### HEATING AND VENTILATING AND MECHANICAL EQUIPMENT IN GENERAL

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#### Educational and Research Work

(See also, 183g and 183d.)

1. In the *Heating and Ventilating Magazine*, April, 1917, it is stated that President Lytle, of the A.S. of H. and V. Engineers has appointed a committee to investigate the matter of the establishment of a bureau of research to be conducted under the auspices of the Society. When John Bartlett Pierce, one of the founders of the American Radiator Company, and its Vice-President, died at his home in Lynnfield, Mass., June 23, 1917, his will was found to create a substantial surplus fund to be used for the establishment of the John B. Pierce Foundation for technical research in heating, ventilating, and sanitation "to the end that the general hygiene and comforts of human beings and their habitations may be advanced."

#### 10C Boilers and Heating in General

**10C1 Departments of U. S. Government**

Issue publications concerning heating, ventilation, and mechanical equipment, both as scientific, technical papers on the production, combustion, and utilization of fuel, and popular literature on home conveniences and economies.

- Fuels. See 2A3, 2A1c and d.
- Bureau of Standards: "Investigation of Fusible Tin Boiler Plugs," 1915, and other Technologic Papers; also Bulletins and other publications (1A2b) for index to which see "Publications Distribution, as mentioned under 5D1a.

**10C2 Boiler Standards**

(a) While the Constitution of the A.S.M.E. states that "the Society shall not approve or adopt any standard or formula," the Report of the Boiler Committee, commonly known as the "Boiler Code," was accepted by the Council of the Society on Feb. 13, 1915, and ordered printed. It is now recognized as a Standard and has been printed by some states, either in whole or with modifications, as the law of the commonwealth. It has also official recognition by the important insurance companies featuring this class of protection.

The official title is "Report of the Committee to Formulate
The authors propose, therefore, the following definition of a unit for stating the capacity of radiators and heating boilers: The "foot of radiation" shall be a quarter of a pound of steam condensed from and at 212° F. per hour.

This is a reference to the rating method for heating boilers, which involves the calculation of the amount of heat a boiler can produce. The definition of a "foot of radiation" is used to standardize the rating of heating boilers, ensuring that they are compared on a uniform basis. This method helps in determining the proper size of a boiler for a given heating load, ensuring that the boiler is neither underpowered nor oversized for the space it heats.

The "foot of radiation" concept is based on the principle that a boiler should be rated according to its ability to transfer heat to the surrounding air, rather than on the physical size of the heating surfaces. This approach leads to more efficient and effective heating systems, as it takes into account the actual performance of the boiler in terms of heat output, rather than just its size.
On Standard Tests and Methods of Tests, covering, among other things, the subject of testing of steel.

See "Proceedings" of the A.S.C.E. for lists of "Current Engineering Literature."

The A.S. of H. & V.E. is conducting investigations to determine the relative efficiency of the various mechanical systems during the different periods of the heating season, dividing it up into periods of twenty days for each period and considering a heating season as 160 days, more or less, the first ten days and the last ten days being considered as one period and so on; this will determine the efficiency of the plant at slow, medium, and maximum combustion, and thus determine the relative efficiency of each rate of combustion from a number of such tests. Through committees and in cooperation with other organizations, it is considering problems affecting all phases of heating.

The A.S. of H. & V.E. issues these reprints of papers:

8. "An extensive Open-Tank Gravity Hot Water Heating System." James D. Hoffman. With tables and charts, on design and economical practice in regard to heating by forced circulation of hot water from a central station. (See, also description of 6.)

This book, written by the Chief Mechanical and Electrical Engineer, office of Supervising Architect, is especially interesting in an exemplification of the work of his department. It contains, besides data elsewhere referred to, discussions on general practice, schedules of piping sizes, sample specifications of the office, extensive data for apparatus in new federal buildings, ducts, flues, tables, and other information applicable to all features of heating and ventilating buildings.

"Heating and Ventilating Plants," Charles L. Hubbard. Covers heating and ventilation as applied to all classes of buildings, from the small, furnace-heated dwellings to structures of the largest size. 350 pp., illus.


"The Mechanical Equipment of School Buildings," Harold L. Alt. 112 pp., illus. Contains Chapters as follows (other Chapters referred to elsewhere):


(b) "Heating by Hot Water. Heating and Hot-Water Supply." Walter Jones. 350 pp., illus.
(c) "Hot-Water Heating and Fitting." William J. Baldwin. 306 pp., illus.
(d) "Warming Buildings by Hot Water," Frederick Dye. 319 pp., illus.
(e) "Practical Steam and Hot-Water Heating and Ventilation." Alfred G. King. Contains rules, tables, and 300 illustrations, showing in detail all the various heating systems, with pipes, radiators, and boiler connections.
(f) "Steam Heating for Buildings." Wm. J. Baldwin, M. Am. Soc. C. E. Descriptive of steam heating apparatus for warming and ventilating large buildings and private houses. 404 pp., illus.

The Engineering Experiment Station of the University of Illinois issues:


Contains sections as follows:

1. Sec. II: "Heating Hazards." Treats of Radiation and Conduction of Heat; Effect of Continuous Heat upon Heating Devices; furnaces and Heating Devices of a Fixed or Stationary Type—Grading of Furnaces—Setting and Mounting—Clearance—General Data of Installation; Furnace Stacks, chimneys and flues, breeching—Features of Installation; Hand or Movable Furnaces; special Treatment of Miscellaneous Heating Devices; Common Miscellaneous Hazards, in connection with use of heat (including: Blower Systems for heating, Ventilating, Stock and Refuge Conveying).

2. Sec. III: "Power Hazards, including Refrigeration." Treats of Steam Boilers, Electric Power—Electric Motors; Gas and Gasoline Engines; fuel-oil under Boilers and furnaces, and for Domestic Use; Refrigeration.


10D Warm-Air Heating, Stoves, Ranges, and Dryers

1. The U.S. Department of Agriculture has issued Farmers' Bulletin No. 270, "Modern Conveniences for the Farm Home." 1916. 48 pp., illus. (Hydraulic and Sanitary features described under G77.)


3. The Federal Furnace League, which disbanded some five or six years ago, published, previous to that time, "The Warm Air Furnace," a handy reference book containing a compilation of rules and formulae to aid in estimating and installing warm-air furnaces. It was the official handbook on warm-air furnace heating adopted by the National Association of Master Sheet Metal Workers. Cloth bound, 56 pp., including diagrammatic illustrations and tables.

4. The latest publication of this kind is: "Formulas and Rules for Installation of Warm-Air Heating," issued by the National Warm Air Heating and Ventilating Association (10A6). 1917. 10 pp. Contains Full Rule for Determining Heat Requirements; Rules for Pipe; Table of Pipe and Register Sizes; Results of Tests on Wall Pipe and Fittings; Directions and Rules for Cold Air Supply; Air Room; Chute in Flues; Desirability of Shapes with Table of Sizes and a Short Rule for Determining Heat Requirements with table of Exposures and other tables.

5. The A.S. of H. & V. E. is gathering data from tests to determine the economic value of stoves for heating purposes. Tests will cover different rates of combustion and transmission at different temperatures to determine the actual value of these appliances for utilizing the heat in the fuel used.

6. Tests of hot-air furnaces will be conducted under the auspices of the Society to determine the best ratios for these appliances, in every particular, including the ratio of size of grate to flue area, ratio of length to height, the ratio of heating surface to grate surface, and the relative value of cast-iron or wrought-iron surfaces on different operations.

10E Blowers, Fans, and Ventilation in General

(See the references under Heating in General (10C4), the majority of which contain sections covering the subjects included in this heading.)

1. The A.S. of H. & V. E. in cooperation with biologists, physicians, sanitarians, and psychologists to determine, if possible, whether the air in buildings is necessarily less healthful than the outer air, and, if so, why. This work is covering a wide range of research and a thorough investigation into every phase of the subject.

2. It is in the process of improving the question of improvements in wafting and conditioning the air to further improve the art of ventilation and is conducting experiments to standardize the various operations necessary to furnish adequate ventilation.

3. Its committees are at work formulating requirements for ventilating buildings to guide the various state legislatures in making up codes for the regulation of such requirements in public and semi-public buildings.


5. Reprints of papers by the A.S. of H. and V.E.:
   (b) "Report of Committee on Fan Blast Heating (1)," 1909. 10 cents.
   (c) "Report of Committee on School-room Ventilation," 1913-10 cents.
   (e) "Open Windows with Mechanical Ventilation," R. C. Taggart. 1912. 10 cents.
   (f) "Ventilation of Telephone Booths," R. L. Douglass. 1914. 10 cents.
   (g) "The Centrifugal Fan," F. L. Busey. 1915. 10 cents.
   (h) "Report of Committee on Method of Taking Anemometer Readings," 1915. 10 cents.

6. Read the Journal and "Transactions" of the Society for current reports.

4. See "Suggested Regulations of the N.B.F.U. for Blower Systems" for Heating and Ventilating, Stock and Refuse Conveying as Recommended by the N.B.F.U. (10A3a and 10B3.) These have also been published in the Heating and Ventilating Magazine as Standard Heating and Ventilating Data Sheets, August, 1917.


THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

10E14 Duct Charts

(See, also, all references under 10L.)

(a) "Tables for Ventilating Ducts," Chouteau E. Pearce, M.E., published on stiff cards by the Heating and Ventilating Magazine Company. These tables are useful in rapidly estimating superficial area and weights of galvanized sheet-
iron rectangular ducts, as usually employed in ventilating work. 50 cents.

(b) "Chart for Figuring Round and Rectangular Ventilating Ducts," Chas. A. Fuller. The Heating and Ventilating Magazine, August, 1916.

(c) See Pipe Charts for Galvanized Iron Work, Weight of Ducts, etc.

(d) See Pehl's Everready Pipe and Elbow Chart. 54 pp.

10F Air Conditioning, Temperature Control

Publications listed under Heating in General (100), but especially many of those in the preceding subdivision on Ventilation in General will be found to treat of these subjects.

1. These are also embraced within the activities of the A.S. of H. & V.E. in connection with Ventilation investigations, and in the Report of the Committee on Minimum Ventilation Requirements it is stated:

"Temperature control, preferably of an automatic type, shall be required for all heated and ventilated rooms. The temperature regulator, whether by automatic or hand control, shall be so arranged that its operation will not decrease the required volume of air-supply for ventilation."

2. The A.S. of H. & V.E. is investigating to determine the best method of dust prevention and humidifying the air from furnaces, and to regulate or control the same. Also to test and determine the value of temperature-controlling devices for hot-air apparatus.

3. The following reprints of papers by the A.S. of H. & V.E. are of interest:

(a) "Report of Committee on Air Washers," 1910. 10 cents.

(b) "Preliminary Report of Committee on Standardizing the Test for Efficiency of Air Washers," A. E. Starke, Jr. 10 cents.

(c) "Humidity in Relation to Heating and Ventilation," L. C. Soule. 1912. 10 cents.

10G Natural Ventilation

This term is used to differentiate between forced ventilation and that of skylights and continuous sash and of those forms of metal ventilators used to accelerate and accomplish ventilation without other mechanical accessories. These will also be referred to in Serial No. 11 under Metal Products.

1. Attention is directed, however, to the following information in the Industrial Section especially prepared for presentation in connection with this issue as pertaining to Ventilation.

(a) Description, illustrated, of Sawtooth Ventilating as well as lights by continuous steel sash—with reference made to the booklet, "Air, Light and Efficiency," David Lupton's Sons Company, p. xvii.

(b) Specifications for and illustration of Swartwout Rotary Ball-Bearing Ventilators with reference made to Data Card published by The Ohio Blower Company, p. xiv.

(c) For reference to the "Star" Fire-Retarding Ventilator, see page xxiii, Industrial Section, Merchant & Evans Co.


3. See, also, references under 10L "Metal Work," and many of those under 10A: "Ventilation in General."

10H Chimneys, Flues, and Fireplaces

In the design of these, efficient proportions and construction tightness should be the first considerations, as a protection against fire and to afford a proper draft. The successful operation of any installation may be greatly impaired, if not entirely defeated, by inadequate size or lack of tightness in the joints of the flue.

The N.F.P.A., and the N.B.F.U. have issued valuable illustrated literature on the subject. Drawings and descriptions are to be found therein and in many of the handbooks and other publications hereinafter listed, as follows:

1. Terra Cotta, Hollow Tile and Brick (3D).

2. Walls, Chimneys and Flues (4C).

3. The Suggested Municipal Ordinance for Regulating Fire Hazards of the N.F.P.A., entitled "Chimneys and Flues, to Provide for the Safe Construction of Chimneys, Flues and Fireplaces" listed under 3A31 and the recommendations of the N.F.B.U. for chimneys and flues in;

4. "Dwelling Houses—A Code of Suggestions for Construction and Fire Protection (3A47)" will also be found printed and illustrated with line constructional drawings in;

5. "Clay Products for Building Construction" issued by The Sewer Pipe Manufacturers' Association (3B78); also describes and illustrates fire-clay flue-linings and chimney-tops.

Valuable data for calculating the area, height, design, erection, and successful use of chimneys and flues will be found in many of the publications listed under Heating in General and Hot-Air Heating and in some of the handbooks and literature of manufacturers who are alive to the necessity of providing adequate draft as a precedent to satisfactory operation of any plant.

6. The A.S. of H. & V.E. proposes experiments to determine a standard for the size and height of chimneys and the strength of draft needed for a given operation; the value of round and square chimneys; the relative efficiency of smooth tile-lined flues compared with the ordinary brick flues; the effect on the draft of diving and underground flues, the friction and heat-loss necessary to overcome the extra travel; the explanation in a practical manner of the laws governing drafts in chimneys and for formulating a standard method of building chimneys to prevent defective drafts.

7. Read "Chimneys: Their Design and Construction," by Harold L. Alt, in the Heating and Ventilating Magazine for March and April, 1917. Mentions common errors in chimney work, describes the use of draft gage and methods to obviate chimney leakage, gives recommendations for construction, making connections and a table for calculating sizes of flues for residences in proportion to cubic contents of building. Contains illustrations and table of commercial sizes and areas of flue tile. Gives design data for chimneys and power plant stacks, frictionless charts for brick and steel stacks, and a theoretical draft chart for stacks.


10. See Heating and Ventilating Magazine:

(a) "Things to Remember about Chimneys," E. C. Molby, October, 1916.

11. The Ideal Flue" of the American Radiator Company gives, in connection with each boiler described and illustrated, the size and height of chimney flue required. It also contains "Notes on Chimney Flues" with a table of commercial sizes of tile and unlined brick flues.

For information concerning Colonial Head, throat and damper for fireplaces, see page xxiii, Industrial Section, Colonial Fireplace Co.
10J Pipes, Valves and Fittings


2. New Edition, "National Standards of Specifications of Materials and Standards of Water Works Associations, The American Gas Institute, and other Standards which have been referred to under different subsections in previous issues, including Sprinkler Equipment - A 43.

3. Tests, reports and discussions on the treatment and corrosion of iron and steel in pipes will be taken up in the next Serial Number (11), under Metal Products.

4. A.S.M.E. Standards recommended in reports of committees received by the Council of the Society and separately published on:

(a) Standard pipe, pipe-threads and pipe-unions.
(b) Identification of power-house piping.
(c) Standard threads for hose-couplings.
(d) Standardization of pipe-lead gages.
(e) The American Standard for pipe flanges, fittings, and bolting.

5. The National Association of Master Steam and Hot Water Fitters issues:

(a) The 1915 U. S. Standard Schedule of Flanged Fittings and Flanges, on which is stated: The dimensions of the American Standard are identical with the above, and this Schedule was adopted March 20, 1914, by a joint committee of this Association, the A.S.M.E., and the Committee of Manufacturers on Standardization of Fittings and Valves." Cardboard, 24 x 35 inches. $1.
(b) The same as a Chart, 9 x 12 inches.
(c) A folder giving separate schedule of the "Standard" flanges and "extra heavy" flanges.
(d) The N.P.T.A. prints in "Proceedings," (e) Reports of Committee on Standardization of Pipe and Pipe Fittings.

7. The A.S. of H. & V.E. has issued Reports of Committee on Corrosion in pipe, which will be referred to in next issue, and is now collecting data relating to sizes of piping used in steam- or water-heating plants; will tabulate such data that the sizes needed for any part of a plant will be readily understood, and continue experiments to add what data may be needed to complete the subject.

10K Radiators, Registers and Grilles

For many references to these subjects see other divisions, particularly Heating in General (10C) and Hot Air Heating (10D).

1. The A.S. of H. & V.E. has special committees, to determine the Most Effective Place for a Radiator in a Room and to Recommend a Standard Method of Testing Radiators. Investigations are being conducted to determine:

(a) The relative value or ratio of one-, two-, three- and four-column radiators; (b) the relative value or ratio of different heights of radiators from 18 to 41 inches; (c) the effect of painting, enameling or radiating; (d) the loss in efficiency when the radiator is enclosed in a recess with only the front exposed, with the front exposed with a grill, with the radiator all enclosed with only an opening at the bottom for air and a register in the top of the enclosure, to determine the size of openings at the bottom and size of register at top in proportion to the surface in the radiator; (e) the ratio of efficiency of a window radiator enclosed under a seat; (f) the ratio of fresh-air inlet and warm-air outlet of registers and indirect: the ratio of register to indirect surface, to determine the frictional resistance of the ornamental face of a register.

2. The following reprints of papers by the A. S. of H. & V.E. are of interest:

(a) "Wall Radiators vs. Long Pipe Coils," J. A. Donnelly. 1906. 10 cents.
(b) "Effect of Painting Radiating Surfaces," J. R. Allen. 1909. 10 cents.
(c) "Determination of Radiator Sizes for Hot Water Heating Plants," W. F. Schaphorst. March, 1917. 10 cents.
(d) "Comparison of Pipe Coils and Cast-Iron Sections for Warming Air," Prof. J. R. Allen. Contains tests demonstrating that condensation for both types of surface depends upon friction of air through the heater.
(f) "Best Position for a Radiator in a Room," September, 1916.
(g) "Requirements for Radiators Humidifiers," E. P. Lyon. 1917. Contains description of a new type capable of evaporating 2.5 gallons per sq. ft. of hot water radiator per day.

10L Metal Work, Ducts, Chase Lathing

See especially the references to Warm-Air Heating, Ventilation, Indirect Heating and the Section on Duct Charts (10E) and the reference to The Warm-Air Heating and Sheet Metal Journal (10Z7)...

1. See Heating and Ventilating Magazine:

(c) "Comparison of Various Methods of Figuring Duct and Lean Sizes," Harold L. Alt, October, 1916.

2. Of the publications under 10E, see particularly the Ventilation Handbook (10E8) as a complete exposition of the metal work features pertaining to all forms of heating and ventilating.

3. See also, the publishers of which are also publish:

(a) "Practical Sheet Metal Dust Construction," W. Neubecker. 1934 pp., diagrams.

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9. See "Lafeax" Data Sheets, as follows:

(a) "Economical Design of Steam Piping," A. Langstaff Johnson, Jr.
(b) "Resistance of Pipe to Internal and External Pressure," K. F. Adamson.


11. See Heating and Ventilating Magazine:

(b) "A Handy Chart for Determining the Weight of Pipe," W. F. Schaphorst. March, 1917.
(c) "Pipe Hangers," Harold L. Alt. March and April, 1916.
(d) "A British Tribute to the Superiority of American Pipe," October, 1916.


14. For data on Inspection and Tests of Pipe, Valves and Fittings, see the information concerning such services printed on page 23 in the Industrial Section by Robert W. Hunt & Company.

15. Information on Target and Arrow Roofing Tin, see Industrial Section, p. xxvii.
1. In an address before the N.A.M.S. and H.W.F. in June, 1916, the Editor of the S.S.D. said: "Can you not, in cooperation with the A.S. of H. & V.E., work on developing a basic formula, or officially approving one of those in existence, for computing the amount of radiation recommended in proportion to cubical contents, to outside wall area (for different kinds of walls and different exposures), to window and door openings, etc., and make this available to all architects for instant reference?"

Several formulas have been put forth for calculating the amount of radiation required to heat given spaces under varying exposures, but until of late years not much data was obtainable with respect to transmission of heat and other factors affecting the materials of construction.

2. One that has been largely used was promulgated by John H. Mills in his work "Heat" published over twenty years ago. Others in use known as Carpenter's, Thompson's, or Holbrook's formulas will, with others offered by various authorities, be found in the references under Heating in General.

3. C. B. Thompson, in a pamphlet published in 1909, entitled "Heat Transmission," completely discusses the subject and offers his formula, giving a chart for ready use, with an accompanying diagram for making quick calculations.

4. Particular attention is directed to the complete and extensive tables and formula, based on Professor Woodbridge's calculations in "The Mechanical Equipment of Federal Buildings" (SoCaM), being the Basis for Calculating Radiating Surfaces used in the office of the Supervising Architect, Treasury Department.

5. See next following Section on Heat Transmission for activities of the A.S. of H. & V.E., which will have an important bearing on developments of formulas.

6. With respect to performance affecting guarantees, the A.S. of H. & V.E. is conducting investigations to determine what constitutes a standard performance of a steam- or water-heating apparatus and to determine a standard method by which any heating apparatus may be tested in any weather at above 50°F. that will be equivalent to a performance of 70°F inside in zero weather, or below.


ION Heat Transmission, Insulation, Coverings

(See, also, 10M and 10P, as well as the Heating and Cooling of Water g.f.)

1. The A.S. of H. & V.E. is collecting and tabulating data of all tests relating to heat-losses through building materials. It will collate the results of new tests till the heat-losses of all materials used in a modern building have been ascertained, and then maintain authoritative data for use as a basis in determining the heat- losses necessary for buildings of various types.

2. It will collect data relative to the heat-loss through covering materials and make tests to verify them and determine the value of insulating materials used for insulating buildings, boilers, pipes, cooling pipes, cooling machinery, and other apparatus.

3. In an address before the N.A.M.S. and H.W.F. in June, 1916, the Editor of the S.S.D. then said: "In the matter of sectional coverings for electricity and heating apparatus, a number of investigations and issued "Preliminary Specifications and Notes," included in the Sectional Coverings, and specified that a number of these."

4. C. P. Paulding. Formulas, Principles, and data relating to insulation of every kind. 41 pp., illus.

5. See Reprints of papers by the A.S. of H. & V.E.:
   (a) "Formula for Radiation for Hot Water Heating," Jas. A. Donnelly. 1914. 10 cents.
   (b) "Effect of Wind on Heating and Ventilating," H. W. Whitten. 1909. 10 cents.
   (c) "Performance of Heating Guarantees," Wm. Kent. 1910. 10 cents.
   (d) "Report of Committee on Heating Guarantees." 1913. 10 cents.

6. See Heating and Ventilating Magazine:
   (b) "Contractor's Guarantee for Heating System." August, 1916.


15. It is of especial interest to note that in the calculations of the office of the Supervising Architect (10M8) a different formula is used for buildings equipped with metal weather strip equal to about a 10 per cent reduction in the amount of radiation.
10 O1 Information Obtainable.

(a) For many features of Mechanical Equipment, see Serial No. 4, Fire Prevention and Protection; No. 6, Electricity; No. 7, Gas; No. 9, Hydraulics and Sanitation.

(b) "Engineering of Power Plants," Robert H. Fernald and George A. Orrok. 1916. 546 pp., illus.

(c) "Steam Power Plants," Charles L. Hubbard. 599 pp., illus.

(d) Combined Power and Heating Plants," Charles L. Hubbard. 408 pp., illus. Contents include: Power, heating, and ventilating requirements for different types of buildings; hot-blast heating and ventilation; central plants.


(f) "Steam Power Plants," Henry C. Meyer, Jr. 219 pp., illus. Includes new data on chimneys.

(g) "Heat and Thermodynamics," F. M. Hartmann. 346 pp., illus. Home study book, based on the course which the author gives at the Cooper Union Schools.

(h) "Heat." E. M. Shealy. 265 pp., illus. Treats of the steam engine, gas engine, refrigerating machine, and air compressor. Elementary.


(l) "Laws" issues among others the following data sheets:


2. "Vacuum Cleaning in Large Buildings," Charles L. Hubbard. From "Practical Engineer" (4-111), March 15, 1914.

(m) "Laws" issues among others the following data sheets:


2. "Vacuum Cleaning in Large Buildings," Charles L. Hubbard. From "Practical Engineer" (4-111), March 15, 1914.

10 O1q Refrigeration and Cold Storage

See, also, Heat Transmission, Insulation, Coverings (10C), and for information on cooling of water, see 9F.

1. The American Association of Refrigeration issues:

(a) "Proceedings." Reports of committees, papers, and discussions.

(b) "Bulletin." Reports of investigations made by various committees and commissions of the Association.

(c) Translation in three languages of the entire Proceedings of the Third International Congress of Refrigeration is now in preparation.

2. Data pertaining to the publications of The American Society of Refrigerating Engineers not yet received.


5. "Refrigeration," Chas. Dickerman and Francis H. Boyer. A guide to the principles, details, and practice of modern systems of artificial cooling, including construction, equipment, and operation. 128 pp., illus.


10. "Elementary Mechanical Refrigeration," F. E. Matthews. 172 pp., illus. A treatise for the person who is not a specialist but needs concise working data.

11. "Principles and Practice of Artificial Ice-making and Refrigeration," L. M. Schmidt. 231 pp., illus. Comprises Insulation of Cold Storage and Ice Houses, Refrigerators, etc.


14. The Bureau of Standards is conducting extensive investigations, with the cooperation of committees of the American Association of Refrigeration and the American Society of Refrigerating Engineers. These investigations relate to ice, ammonia, brines, the thermal conductivities of insulating materials, and will form the subject of papers.

(c) See A.S.M.E. Condensed Catalogue of mechanical equipment with general classified directory and an engineering data section.


15. For data on Capacity and Efficiency Tests of Power Plants, and on Acceptance Tests of Power Plant Equipment, see the information concerning such services printed on p. x in the Industrial Section by Robert W. Hunt & Company.

10 O2 Practice Recommended and Standards to be Followed

(e) See the various publications of the N.F.P.A., the N.B.F.U. and A.F.M.F.I. Co. concerned with mechanical equipment as listed in the Journal for March, pp. 144-146, which includes:

1. "Cold-Storage Warehouses: Suggestions for Their Improvement as Fire-Risks" (3A34).

2. See, also, other recommendations of these authorities mentioned under Heating in General (10C).

3. N.F.P.A. "Index" (3A34) contains references to Refrigeration and other forms of mechanical equipment.

(d) See, also, the appliances and devices pertaining to Mechanical Equipment inspected and labeled by the Underwriters' Laboratories embraced within:

1. List of Inspected Mechanical Appliances (3A6).

2. List of Inspected Electrical Appliances (3A6).

3. List of Appliances Inspected for Accident Hazard (3A6).

(e) See Bulletins of the American Association of Refrigeration (10C).

(d) See Navy Department specifications (3A14) for "Refrigerators for U. S. Navy (except torpedo craft and tugs boats)," Serial designation 1216, March 10, 1912. Others mentioned under 10C.

(c) See "Boiler Standards" (10C).

(f) See "Pipes, Valves and Fittings" (10J) for the standards mentioned thereunder.

(g) See Reports of Committees of the A.S.M.E., the A.S.H. and V.E., and others listed under various subdivisions.

10 O2h Power Test Code

1. The A.S.M.E. Power Test Code, entitled "Rules for Conducting Performance Tests of Power Plant Apparatus" is a new set of testing codes of the Society to replace those in force up to the present time, relating to boilers, pumping engines, locomotives, steam engines in general, and apparatus not elsewhere covered, as to apply to such power-generating apparatus as the present codes do not cover, including water power, bringing them into harmony with each other and with the best practice of the day.
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<td>Fairfacts Co.</td>
<td>XLI</td>
<td>Semer-Solvay Co.</td>
<td>XXVI</td>
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<td>Heinecke &amp; Smith</td>
<td>XVI</td>
<td>Smith, H. B., Co.</td>
<td>XLI</td>
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<td>Humphrey Co.</td>
<td>X</td>
<td>Sonneborn, L., Sons Co.</td>
<td>XLI</td>
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<td>Hunt, Robert W., Co.</td>
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<td>Standard Documents</td>
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<td>Hydrated Lime Bureau</td>
<td>XLI</td>
<td>Taylor, N. &amp; G., Co.</td>
<td>XLI</td>
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<td>Hydraulic Press Brick Co.</td>
<td>XXVIII</td>
<td>Toch Brothers</td>
<td>XLI</td>
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<td>Indiana Limestone Quarrymen's Association</td>
<td>VI</td>
<td>Trenton Potteries Co., The</td>
<td>XLI</td>
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<td>Johns-Manville, H. W., Co.</td>
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<td>U. S. Materials Co.</td>
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<td>Ketcham, O. W.</td>
<td>XXXV</td>
<td>Webb Pink Granite Co.</td>
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<td>Kohler Co.</td>
<td>XLI</td>
<td>White Pine Bureau</td>
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531
CAPACITY AND EFFICIENCY TESTS OF POWER PLANTS

Our Testing Department is fully equipped with the necessary instruments and trained observers for conducting all tests to determine the capacity and efficiency of Steam, Gas, and Electric Power Plants; and tests to determine the evaporative power of Boilers and the combined efficiency of Boilers and Furnaces in accordance with the rules of the American Society of Mechanical Engineers and the American Institute of Electrical Engineers.

The Power Plant Tests include tests of the efficiency and capacity of the various units, as well as the combined efficiency of the entire plant.

The services of the Engineering Staff are available for the interpretation of specifications and the arbitration of contested questions.

ACCEPTANCE TESTS OF POWER PLANT EQUIPMENT

Our Testing Department is prepared to witness and report upon performance tests of Oil and Gas Engines; Generators, Motors, and other Electrical Apparatus; and Centrifugal or Reciprocating Pumps at the manufacturers' works, thus securing the purchaser against the acceptance of Power Plant Equipment which does not comply with the requirements of the specifications.

INSPECTION AND TESTING OF STEAM BOILERS

The advantage of Boiler Inspection during construction is emphasized by the many failures reported each year due to hidden defects. In the interest of Public Safety, thorough inspection cannot be too strongly insisted upon when ordering new boilers.

The inspection service this Company offers includes the Inspecting and Testing of the Plates and Tubes at the Mills and supervision of the Boiler during construction by competent men experienced in Plate Manufacture and Boiler Construction.

INSPECTION AND TESTS OF PIPE, VALVES, AND FITTINGS

This material is inspected at the manufacturing works while being fabricated for power plant use. All pipe, valves, and fittings are subjected to hydrostatic pressure test and carefully inspected for proper dimensions and quality of workmanship.

TESTS OF FLOORS, WALLS AND COLUMNS

The constantly increasing use of Reinforced Concrete and of Terra Cotta Tile as a protective and structural material necessitates the testing of full-sized floor and wall sections, in order to obtain authentic data for the Designing Engineer and to demonstrate the durability, strength, and reliability of these materials in service.

Load Tests of floors in new buildings are frequently required by Architects and City Building Departments to demonstrate that the deflection under load does not exceed that permitted by specifications or by the rules of the Department.

The Testing Department is prepared to witness and report upon Load Tests of slabs and floors, Compression Tests of walls and columns, and Tests by fire and water on floors and walls.
What's Behind Your Plaster?

The answer to this question often determines the success of your building.

Is the base for your plaster fireproof?
Does it prevent cracking of the plaster?
Does it stop falling of ceilings?
Is it verminproof?
Does it eliminate streaking of plaster?

If it accomplishes all these results, then you have the ideal plastering base—in short, you have

METAL LATH

Metal Lath thoroughly re-enforces the concrete with a steel mesh which expands and contracts with the plaster. It thus prevents the cracking of plaster with its ruination of decorations. Plaster on Metal Lath does not streak or stain, nor does it fall off. Metal Lath is fire-resisting, permanent, does not decay nor provide a lodging place for mice and vermin.

Use Metal Lath in all work, large or small, inside or outside. Its cost is not much more than the cheapest, poorest materials. Besides, it saves its cost many times over in the saving in decorations, repairs, up-keep, etc.

The Associated Metal Lath Manufacturers has been organized to secure proper standards and uniform success in the use of Metal Lath. Do you know about the tests conducted by the Bureau of Standards, United States Government, on plaster and stucco? We will send you this report on request.

ERRATA

Note omission of decimal point in weights of lath in our advertisement in the September issue. This should read:

24 G. 3.40 lbs. 25 G. 3 lbs. 26 G. 2.50 lbs. 27 G. 2.33 lbs.

THE ASSOCIATED METAL LATH MANUFACTURERS

901 Swetland Bldg., Cleveland, Ohio

AMERICAN ROLLING MILL CO., Middletown, Ohio
BERGER MANUFACTURING CO., Canton, Ohio
BOSTWICK STEEL LATH CO., Niles, Ohio
CONSOLIDATED EXPANDED METAL CO'S, Pittsburgh, Pa.
GENERAL FIREPROOFING CO., Youngstown, O.

MILWAUKEE CORRUGATING CO., Milwaukee, Wis.
NORTHEASTERN EXPANDED METAL CO., Chicago, Ill.
PENN METAL COMPANY, Boston, Mass.
SYKES METAL LATH AND ROOFING CO., Niles, O.
TRUSSED CONCRETE STEEL CO., Detroit, Mich.
Why Gild "Fireproof?"

"Fireproof," popular fancy synonymizes with safety from fire; invests incombustible materials of construction with mysterious power to impart their characteristics of fire resistance to completed and occupied "fireproof" buildings.

"It’s absolutely fireproof; it cannot burn," is the familiar chatter of the owner of a "fireproof" building containing enough fuel in combustible contents to steam a mammoth ocean liner several days.

The Triangle Waist Factory fire which took a fearful toll of human life in a "fireproof" building, and the Edison Works fire which blazed unrestrained through nine "fireproof" buildings in seven hours, completely gutting them, are sufficient examples of the fact that it is not the function of a "fireproof" building to safeguard contents.

The merits of "fireproof" construction are beyond question, but whatever these merits they cannot comprehend incombustible building materials as a sufficient assurance of safety from fire in an occupied "fireproof" building.

"Maximum fire protection," a manufacturer of an incombustible building material announced, would be assured by the use of it. How so, when maximum protection against fire comprehends not only the incombustion of construction materials but also active control of fire, and all that can be expected of incombustible construction materials is passive resistance? They cannot, by any stretch of fancy, be considered as having any effect whatever on the burning of combustible contents.

Complete Fire Resistance

is made possible by automatic sprinklers. The fire-activated automatic discharge of water right where it is needed most, in the heart of a fire, not only actively resists the flames in combustible contents but also fortifies the passive resistance of the materials of construction.

Last fall, in a New York suburb, a seven-story "fireproof" storage warehouse experienced a fire which is comprehensively epitomized in this conclusion in a report prepared by Ira H. Woolson, consulting engineer to the committee on construction of buildings, National Board of Fire Underwriters:

"The one fact which stands out above all others in connection with this fire is that a suitable sprinkler system would have saved the concrete building with its contents and probably have controlled the fire in the frame building. It is one more demonstration of the folly of depending upon fire-resistant construction alone to protect inflammable contents of a building from fire. The owners had evidently made sincere efforts to have a very safe structure. It was in general well built; wired glass windows were provided on all sides; the protection of vertical openings was standard; double approved fire doors were provided on communicating doorways; sets of fire pails properly filled were scattered about each floor, but were useless because of the smoke which entered the building preceding the fire. With all these precautions the building is today badly wrecked; a large proportion of the contents is ruined either by fire or water, and a total property loss of $125,000 or more has been sustained. Only a portion of this is covered by insurance and the business of the owners will be more or less paralyzed for many months. All this could have been saved by a comparatively small investment in sprinkler protection."

A "FIREPROOF" BUILDING IS—COMPLETELY—WHEN SPRINKLERED
Smokeless heating boilers which burn cheap soft coal

For factories, warehouses, hotels, etc., in districts where soft coals are plentiful and low in price IDEAL Smokeless Down-Draft Boilers will prove a big factor in cutting down overhead expenses.

IDEAL Smokeless Down-Draft Boilers

Save on the coal bill and give plenty of heat

are made of everlasting cast-iron, outwear steel boilers many years. Meet all requirements of smoke ordinances. Easy to run and clean. Tested in the leading soft coal markets for past five years and approved by all Smoke Inspectors.

Ask for catalog “Ideal Smokeless Down-Draft Boilers”—and let us refer you to present installations of these famous boilers—to know first-hand about their cleanliness and economy.

AMERICAN RADIATOR COMPANY

Sales branches and showrooms in all the large cities
Free Service to Architects

Write or send coupon for particulars of our Free Service to Architects, Builders, Contractors, which embraces the preparation of special plans and recommendations of our Engineering Department.

This service also includes advertising literature and such cooperation as you may need or desire.

Take advantage of this opportunity. Every building plan and specification should include the installation of a Humphrey Automatic Gas Water Heater, because it adds so much to the satisfaction and comfort of the occupants of any home or building, besides furnishing instant hot water service at lowest possible cost.

The supremacy of the

HUMPHREY AUTOMATIC Gas Water Heater

in the Gas Water Heater field is of business concern to you because its superiority is so pronounced that it needs but little effort to make the prospect see the wisdom of installing it.

Our national advertising, the largest and most attractive ever placed behind a Gas Water Heater, also makes it easier for the architect and others to introduce it to the consumer.

—While the splendid results and general satisfaction confirm the judgment of the architect.

Write or Send Coupon

Doing so will open the way to a live opportunity for you—an opportunity which you can turn to profit and into a splendid advertisement for yourself. Address

HUMPHREY COMPANY
Div. Ruud Mfg Co.
KALAMAZOO MICHIGAN

Send Now!

HUMPHREY COMPANY
Kalamazoo, Michigan

Gentlemen: I am interested in your Free Service to Architects, and would be glad to get details of your proposition.

Name

Street No.

City State
You have seen sawtooth roofs, but never—unless you have been on this Goodrich top floor—have you seen the last word in sawtooth ventilation as well as lighting!

A thousand men and girls, working at top speed "assembling" soles and welts and uppers into rubber footwear ready for the vulcanizers, require unfailing fresh air regardless of weather. How do they get it?

First, the sawtooth continuous sash is top-bung and unbroken, therefore rainproof when open. Stale air can escape, rain or shine.

Second, similar continuous sash over the windows admits fresh air constantly.

Third, both inlets and outlets are uniform the entire length of the floor.

Fourth, a single electric motor in each wing controls simultaneously all the sawtooth lines in that wing. One operation opens or closes all the inlet sash on either side.

Results: (a) Fresh air reaches every part of the floor; stale air goes straight up and out; no pockets or back currents; (b) Ventilation is controlled by foreman; it is not dependent on the workers' caprice; (c) Abundant lighting over entire area of 1½ acres.

This principle of weatherproof, equally balanced inlets and outlets, with all outlet lines simultaneously controlled, can be applied to great advantage wherever numerous workers are employed in intensive production and the building width is not too great to permit the central bays to be reached by fresh air.

Lupton Steel Sash, Counterbalanced Type in windows throughout; equal top and bottom openings ensure ventilation on floors 1 to 4.

This and many other notable factories where our cooperation with the architect or engineer has produced better-than-ordinary results, are described in a booklet, "Air, Light and Efficiency." It's free.

Let us help solve your lighting and ventilating problems.

DAVID LUPTON'S SONS COMPANY, Westmoreland and Trenton Ave. PHILADELPHIA, PA.
Send for a copy of this New Book on Old Pipe

It tells an illuminating story of pipe service in dozens of old buildings, giving an opportunity for instructive comparisons of the relative life of various kinds of pipe in similar service.

These are records of more than ordinary value, collected by personal investigations on the ground; and their lesson can be ignored by builders only at a heavy future penalty in pipe replacements, impaired values, and inconvenience to occupants.

The buildings include such famous structures as the Masonic Temple, Chicago; Cooper Union, New York; National Military Home, Dayton, Ohio; Cleveland Arcade; Iroquois Hotel, Buffalo; St. Louis Post Office, and dozens of others, all illustrated.

Send for copy of this book—"On the Trail of Byers Pipe"

A. M. BYERS COMPANY, Pittsburgh, Pa.

ESTABLISHED 1864

NEW YORK BOSTON CHICAGO HOUSTON LOS ANGELES

BYERS GENUINE WROUGHT IRON PIPE

FULL WEIGHT GUARANTEED
Reasons why
"85% MAGNESIA" is indorsed
by the highest authorities

For more than a quarter of a century "85% Magnesia" coverings for pipes and boilers have been regarded as the highest standard of Heat-Insulation.

The Engineers' Building in New York and the new Massachusetts Institute of Technology here pictured, both fully equipped with "85% Magnesia" coverings, are pertinent illustrations of the attitude of the highest engineering authorities towards "85% Magnesia" as the perfect insulation.

The exclusive use of "85% Magnesia" coverings in the U. S. Navy, its almost exclusive use on locomotives, its predominant use in power- and heating-plants, its use in most of the sky-scrappers, terminals, public buildings and big hotels, all give ample proof that Architects and Engineers fully recognize that the insulation value of "85% Magnesia" is far in advance of any other material practicable for this purpose.

Economy and Efficiency

The real value of a pipe and boiler covering can be measured only in terms of actual B. T. U. of heat saved, and in every test of this character "85% Magnesia" coverings have amply proved their superiority over all other coverings. The actual saving in coal, spread over a short term of years, will not pay only the whole cost of the installation, but also a handsome permanent dividend on the investment cost thereof.

Durability and Permanency

"85% Magnesia" coverings show no deterioration or loss of efficiency over a very long period. Instances are common where after as long as twenty years they are just as efficient as the day they were applied. This is a point of supreme importance which every Architect and Engineer will readily recognize.

MAGNESIA ASSOCIATION OF AMERICA, 702 BULLETIN BLDG., PHILADELPHIA, PA.

INDUSTRIAL SECTION

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

October, 1917
America's annual coal bill is nearly two billion dollars, and every one per cent. saved means $20,000,000 annually. Efficient insulation will save a higher percentage—for you and for the nation.

—is one of the big problems of industry that touches us all. The economy with which coal is burned is as important in regulating the price of life's necessities as the cost of raw material or the price of labor.

"More power per pound of coal" is the aim of every manufacturer as he strives for industrial economy. "More heat per ton of coal" is the aim of every fuel user, whether in home, church, school or workshop.

One of the most important developments of Johns-Manville Asbestos has been in the saving of heat through Insulation. Johns-Manville have developed materials, built on asbestos as a base, that retard the flow of heat from boilers, furnaces, pipes and flues. The perfection of these heat insulations and their application to thousands of America's power plants are saving power by saving fuel—millions of dollars worth annually; nor does this include countless other installations on the heating systems of homes and buildings generally, where coal is burned for human comfort.

Twenty-five years' specialization, directed by the highest engineering talent, has enabled Johns-Manville to develop and produce insulations of exceptional efficiency and durability under every service condition. Asbestos-Sponge Pipe and Boiler Insulation, for example—a remarkable felt which combines the "dead-air-cell" insulation of sponge with the endurance of asbestos is the most efficient pipe and boiler insulation known. Or 85% Magnesia—or Asbestocel, Zero, Anti-Sweat, or Standard Brine and Ammonia Insulations—whatever your needs, you can meet them efficiently with a Johns-Manville Insulation.

H. W. JOHNS-MANVILLE CO.
NEW YORK CITY
10 Factories—Branches in 54 Large Cities

JOHNS-MANVILLE
Service to fuel users

HEATING AND INSULATION Serial No. 10
Hydrated Lime Plaster

Quiet: Because Hydrated Lime Plaster after drying on the wall contains millions of microscopic air cells which absorb sound and promote perfect acoustical conditions.

Sanitation: Because Hydrated Lime Plaster, on account of its extremely plastic properties, permits better workmanship and hardens without the development of cracks. Eliminates harboring places for germs and vermin.

Economy: Hydrated Lime Plaster costs no more per square yard than other plaster, and gives results the architect considers most essential.

Satisfaction: This is attested by hundreds of prominent architects who are consistently specifying Hydrated Lime Plaster because its claims are proved on every job.

Complete Standard Specifications for Hydrated Lime Plaster will be sent upon request.

Hydrated Lime Bureau
of the National Lime Manufacturers' Association
1519 Arrott Building - Pittsburgh, Pennsylvania

“Star” Fire Retarding VENTILATORS
Patented
have been installed on the Supply Depot of the Great Lakes Naval Training Station. The selection of “Star” Ventilators for this important post is a thorough recommendation of their ability to keep a constant supply of fresh air in circulation.

“Merchant’s Old Method” Roofing Tin
Evans “Almetl” Fire Doors
MERCHANT & EVANS Co
NEW YORK
PHILADELPHIA
Baltimore
ATLANTA
Cleveland
CHICAGO
WHEELING
ST. LOUIS
KANSAS CITY

Target-and-Arrow Roofing Tin

This is a specialty of ours, handed down from the early days of our business. In this brand we have preserved an old-time standard of manufacture, for the use and benefit of present-day architects. Few building materials have had so thorough a test of time as Target-and-Arrow Roofing Tin. It remains today the same durable quality that we have supplied to American sheet metal workers for more than seventy years. It costs a little more than other roofing tin, so you are not likely to get Taylor quality if you write a specification that permits substitution.

Specify Taylor’s Target-and-Arrow Roofing Tin, either 1C or 1X thickness, as desired. This Roofing Tin is sold at a fixed resale price.

Our catalogue is in “Sweet’s,” all issues. We have full-size working drawings describing in detail the method of applying heavy ribbed tin roofing, and shall be glad to send these to any one interested, upon request. These drawings will also be found among the Service Sheets contained in the portfolio issued by the Architectural Service Corporation, Philadelphia.

N. & G. TAYLOR COMPANY of Philadelphia
Headquarters for Good Roofing Tin Since 1810

INDUSTRIAL SECTION

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

October, 1917
These Bulletins Outline Our Service in Detail

We render the service outlined in these bulletins to the architect on a fee basis, without any obligation whatsoever to use our particular products.

This service is of great importance to architects, especially those who do not possess the necessary organization in their own office. We are able to center our highly specialized force on one project, to help the architect carry through his commission in a very short time. By this coöperation, the architect commands the service of the most thoroughly trained experts on reinforced concrete construction.

We will send, on request, special bulletins for the execution of the following types of buildings:

- Factories; Hotels; Y.M.C.A.'s; Warehouses; Hospitals; Office Buildings

Engineering Offices located in all parts of the country. Write for bulletins today.

ENGINEERING SERVICE DEPARTMENT
Corrugated Bar Company
BUFFALO, N. Y.

New York  Boston  Philadelphia  Chicago
Syracuse  Detroit  St. Louis  Milwaukee
THE Morrison R. Waite High School, illustrated above, and the Jessup W. Scott High School, designed in the same style, are probably the two finest school buildings in Toledo, Ohio. Both are the work of David L. Stine, Architect.

Both schools are of colossal size, faced with red rough-faced Bokhara brick, with Gothic decoration of Northwestern Light Grey Standard Terra Cotta. The color combination is unusually effective.

By using Northwestern Terra Cotta the architect is assured not only of mechanical perfection, but of that intelligent and appreciative cooperation which is so vital to success.

THE NORTHWESTERN TERRA COTTA CO.

CHICAGO
The 74th Regiment Armory, Buffalo, N. Y. has just been re-wired with SHERARDUCT, the only conduit protected by a zinc steel alloy on both interior and exterior surfaces.

Had SHERARDUCT been used in the first place, this expensive re-wiring would not have been necessary.

Installation made by McCarthy Bros. & Ford Engineers and Contractors

IF Solvay Hydraulic Paint is used for protecting the Architectural Steel

Solvay Concrete Coating for Damp-Proofing the walls AND

Solvay No. 10 Crysolite Paint for protecting the fire escapes and exposed ironwork of the buildings you are constructing, you will not be called upon at some future date to apologize for the materials used.

THE SOLVAY PROCESS COMPANY
Syracuse, N.Y.

For Roofs and Side Walls

You can create more charming effects and save time if you specify "CREO-DIPT" STAINED SHINGLES

You also save annoyance, muss and waste of staining on the job. Only selected cedar shingles are used. Preserved with creosote and stained any color desired. Our process drives the stain into the pores of the wood. Shingles do not curl or fade out in streaks.

Write for our Book of "CREO-DIPT" Houses and Simple Colors on Wood. Also ask about our "CREO-DIPT" Thatched Roofs.

There are 17 Grades and 30 Colors in 16-, 18-, 24-inch - WRITE FOR SAMPLE COLORS ON WOOD AND SAMPLE ROOF. WE ALSO HAVE "CREO-DIPT" THATCHED ROOF.
—and Practical

Not only is the service offered to Architects, by this Association, of a broad, constructive character, but it is essentially practical as well.

Our aim is to stimulate, to elevate, to dignify a great industry. But, in addition to that, the purpose of the work we do is to lend assistance, counsel, and information in specific cases, touching actual installations or the many details connected with the use of Tile in any of its forms.

This constructive and practical service is at the command of architects everywhere.

ASSOCIATED TILE MANUFACTURERS
BEAVER FALLS, PA.

ALHAMBRA TILE CO.  Matawan, N. J.
Newport, Ky.

AMERICAN ENCAUSTIC TILING CO.  Zanesville, Ohio

ATLANTIC TILE MANUFACTURING CO.  Matawan, N. J.

BEAVER FALLS ART TILE CO.  Beaver Falls, Pa.

BROOKLYN VITRIFIED TILE WORKS  Brooklyn, N. Y.

BRUNT TILE & PORCELAIN CO.  Columbus, Ohio

CAMBRIDGE TILE MFG. CO.  Covington, Ky.

GRUESBY FAIENCE & TILE CO.  Boston, Mass.

MATAWAN TILE CO.  Matawan, N. J.

MOSAIC TILE CO.  Zanesville, Ohio

NATIONAL TILE CO.  Anderson, Ind.

OLD BRIDGE ENAMELED BRICK & TILE CO.  Old Bridge, N. J.

PERTH AMBOY TILE WORKS  Perth Amboy, N. J.

C. PARDEE WORKS  Perth Amboy, N. J.

WHEELING TILE CO.  Wheeling, W. Va.

UNITED STATES ENCAUSTIC TILE WORKS  Indianapolis, Ind.

Office: BEAVER FALLS, PA.
Residence Arthur H. Fuerbacher, Esq., Saint Louis Co., Missouri
M. P. McArdle, Architect
Hy-tex Velour Matts, Flemish Bond with 1/4-inch gray, tooled mortar joint

Hy-tex
The Standard of Quality in Brick

Brick is the logical material for country house construction—practically and esthetically.

No other material offers such possibilities in color and texture—such perfect blending with the setting—nor such a degree of comfort, durability, and fire-safety.

In using Hy-tex the architect avails himself of the utmost in brickcraft—in range of color-tones, in texture, in quality, and in service.

Twenty-two plants and fourteen offices are at your service. Apply to any of them for literature, samples or expert co-operation.

Hydraulic-Press Brick Company
SAINT LOUIS
BRANCH OFFICES: Baltimore, Chicago, Cleveland, Davenport, Dubois, Pa., Indianapolis, Kansas City, Minneapolis, New York City, Omaha, Philadelphia, Toledo, Roseville, O., Washington, D.C.
The Cutler Mail Chute

is used in thousands of buildings in every part of the United States, and abroad; has been for more than a quarter of a century, and will remain, the standard of excellence in every respect.

It has received the highest award wherever exhibited, and is being furnished to all those who consider quality as well as price, at exceptionally low figures.

The construction developed in long experience as the only safe one is protected by litigated patents, which have been sustained and which counsel advises are being infringed.

You will not know what our price is until you get it from us, and, when it is before you, we shall be favored with your business.

Agents in every important center.
Sweet's Index Pages 1726 and 1727.

CUTLER MAIL CHUTE COMPANY
ROCHESTER, N. Y.

A REPRESENTATIVE WILL CALL ON REQUEST
JUST another example of the ability to hold its shape under exposure to trying weather conditions, the long life and the wonderful resistance to decay of

**WHITE PINE**

In no other wood can the architect's most delicate designs be so faithfully and permanently executed.

If the lumber dealers supplying your clients are at any time unable to furnish it, we should appreciate the opportunity of being helpful to you in securing it.

*Address WHITE PINE BUREAU,*
*2044 Merchants Bank Building, St. Paul, Minn.*
Varnish for experts

Of all varnish users, the most fastidious are the makers of fine furniture and pianos, for the salability of their products depends largely upon their perfection of finish. Among these manufacturers, there are many for whom we make varnish.

Doesn't our success in satisfying this critical trade indicate an understanding of the treatment of fine woods that you can use to advantage in finishing interior trim and floors?

Murphy Varnish

"the varnish that lasts longest"

does justice to the rarest wood, enriching the color, intensifying the detail of the grain and figure, and providing a lustrous satin-like finish of matchless durability.

Our principal architectural products are:

*Murphy Transparent Interior*  *Murphy Semi-Gloss Interior*
*Murphy Transparent Floor*  *Murphy Univernish*
*Murphy Transparent Spar*  *Murphy White Enamel*
*Murphy Nogloss Interior*  *Murphy Enamel Undercoating*

Send for our book, "Rare Woods," illustrated with reproductions in full color and scale of beautiful woods from all parts of the world.

Murphy Varnish Company

*Franklin Murphy, jr., President*

Newark  Chicago

Dougall Varnish Company, Ltd., Montreal, Canadian Associate

A N A
And Here's Another Thing Toxement Will Do!

RUBBLE stone and face brick become unsightly and structurally weak when water gets into and behind them. The preventive is simple and positive.

Instead of ordinary mortar, use a mortar containing 2% of this dry colloidal powder, and you will have no trouble at all.

"R.I.W." Toxement lubricates the mixture, eliminates voids and makes the finished mortar positively waterproof even under pressure. Nothing could be more efficient, more simple, more economical.

Our Toxement Book makes profitable reading. Write for it today. Dept. 55.

TOCH BROTHERS
Technical and Scientific Paint Makers Since 1848
320 Fifth Avenue, New York City

Specify Mississippi Wire Glass

The Recognized Standard
and be assured of
Fire Protection
Breakage Protection
Quality Protection
and Satisfaction

Write for Catalog 11

Mississippi Wire Glass Co.
CROISIC BUILDING
New York

Chicago  St. Louis
A COMPLETE LINE OF PLUMBING AND BATHROOM FIXTURES OF THE HIGHEST QUALITY IS MANUFACTURED OR HANDLED BY THIS COMPANY AND IS CARRIED IN STOCK AT ALL OF OUR BRANCH OFFICES IN FIFTY-THREE LEADING CITIES. TO BE ABLE TO BUY DIRECT FROM THE NEAREST BRANCH OFFICE IS AN ADVANTAGE THAT UNDOUBTEDLY IS APPRECIATED BY THE TRADE.

1855 — CRANE CO. — 1917
836 South Michigan Avenue, Chicago

When the Last Certificate is Signed

There is solid satisfaction in knowing that so far as the dumb waiter is concerned, the Sedgwick outfit you have specified will perform every promise of the contract.

Smooth, easy operation in a dumb waiter is something the client appreciates more and more as time goes on.

And smooth, easy operation is guaranteed by a Sedgwick specification.

Which explains the popularity of Sedgwick outfits among far-seeing architects and owners alike.

SEDGWICK MACHINE WORKS
124 Liberty Street
New York
SPECIFICATIONS

Property of John Doe

PAINTING—All painting shall be done with

In other words, all painting shall be done with an eye to permanent beauty.

MATHESON White Lead

and pure linseed oil form a paint that stretches and shrinks with surface changes without cracking. It endures for years, resisting all weather attacks and retaining its good looks.

“Matheson” is especially suited for interior walls and woodwork. Any tint, texture or finish is obtainable.

MATHESON LEAD COMPANY

559-571 Vernon Ave.
Long Island City, N. Y.

If You Have Investigated

the subject of laundry disposal in Hospitals and similar institutions, you probably have agreed with the eminent Architects and Hospital Executives who conceived and designed the

PFAUDLER Glass Enameled Steel LAUNDRY CHUTE

that absolute isolation en route is the only means of preventing the distribution of dangerous infections from soiled linen.

The Pfaudler Enameled Chute is the only isolated conveyor which can be thoroughly cleaned.

To cleanse it, a valve is turned; a shower of hot water flushes its non-absorptive, glossy interior, and flows into the sewer; that is all, for it cannot rust.

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Industrial Section  Journal of the American Institute of Architects  October, 1917
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St. Louis Carrying the Holy Crown of Thorns in Procession to Notre Dame

Old Paris (1250)
THE INDUSTRIAL HOUSING EMERGENCY, in its relation to the war, seems to be involved in a maze of obscurity. The original committee of the Council of National Defense, charged with the task of investigating the situation, made its report to that body more than two months ago. Its findings must have been either incomplete or unsatisfactory, for the Council immediately began holding hearings which apparently had no other object than the verification of the evidence presented by the committee. This process did not produce any tangible result, and we may suppose that it still left the whole question where it was at the beginning, since a third committee, of which Mr. Otto Eidlitz, of New York City, was made chairman, was charged to cover the same ground. This committee reported directly to the President and his cabinet, we believe, and while the substance of the report has not been made available, press reports indicate that it carried definite recommendations and made plain the fact that a shortage of houses was seriously interfering in the production of many vital necessities of war. Subsequent to that report, there have been rumors to the effect that financial aid would be extended to one or two housing undertakings which had been begun, or which were ready to begin, but which had been stopped by shortage of money. Other rumors were to the effect that the whole matter, with the possible exception of such action as we have mentioned, would be left to be dealt with by Congress at its next session.

The Shipping Board, which has separate authority for dealing with the house-shortage, has, according to a press report, enlisted the services of Mr. Flannery, President of the American Vanadium Company, whose task will be to see that housing accommodations are provided, as fast as possible, for workmen in the shipbuilding centers. On the other hand, it is also rumored that the Shipping Board's Committee on Housing will be merged with a general Commission or Administration, which will deal with all housing undertakings in which the Government has an interest. What the policies of this Commission will be is still left largely to conjecture, although current opinion inclines to the belief that it will devote most of its effort to financing private undertakings with government funds, and will commit the Government to actual participation in land-purchase and house-construction only when no other solution can be found. In contrast with such a procedure, assuming it to be the one to be followed, we have the experience of England, as narrated elsewhere in this issue by our special correspondent, Mr. Frederick L. Ackerman.

EXPERIENCE IN THE REGISTRATION of architects is developing at a rapid rate. The annual report of the State Board of Registration in New York state presents some very definite data upon which to base preliminary conclusions.

Total applications received during the first two years since the law went into effect number 1,991; of these, 175 were withdrawn, 1,367 have been approved, 358 have been disapproved with the recommendation that they be not given certificates without examination, and 89 remain to be given final consideration.

No examinations have been held for the admittance of new practitioners. Only two applications as yet have been received for registration upon examination.

During the year the Board has approved 330 applications for registration, making the total registration on September 13, 1917, 1,267. One hundred and eight applicants appeared before the Board during the past year for personal hearings, most of them in appeal from previous disapproval of their applications, and some upon request
The Board of Examiners, after two years' experience with the operation of the Registration Law, and, after examining the work of scores and hundreds of architects who are not a credit to their profession, is confirmed in its belief that the most important function of the Registration Law is its tendency to raise the standard of education and technical qualifications. The Registration Law does not prevent engineers and others from doing building work, but it does forbid any new practitioner to assume the title of "architect" until permission is granted, for reasons which in effect make "architect" a degree and the certificate a diploma of achievement. The law does not in any way compel the public to patronize architects, except as it may command respect by fixing high standards of ability and qualifications for those permitted to use the title. The Board believes that it has evidence of a strong impulse toward higher education on the part of young men ambitious to practise, and, with the assistance of architectural schools willing to cooperate with the Board, has confidence that the law will justify its beneficent purpose.

Fourteen states of the Union have passed laws regulating the practice of architecture. It is strongly to be hoped that, as other states enact similar legislation, all influences will tend towar a common standard which will permit reciprocatory arrangements between states.

**The Significance of England's Program of Building Workmen's Houses**

*By Frederick L. Ackerman*

It was during a cold drenching rain that I viewed England's colossal munition plant, which extends for many miles over what was but two years ago a vast area of agricultural land with only here and there an occasional farmhouse or settlement. Much of this I saw in detail during my visit, but, early in the day I was taken to a little wooden platform from which the King had viewed this truly remarkable achievement but a few months previous. From this vantage-point the magnitude of the undertaking could be seen, but, extending far beyond the limits of the eye to distinguish form, there was, one realized by the tone of the landscape, a continuation of what one so clearly saw in the foreground.

In the extent of this operation I felt that for the first time I sensed something of the magnitude of what must be the scale of the operations at the front. Surely here, with this vast fabric of war industry spread out before me, I could sense the tremendous power which is accumulating in the world to the end that the Hun shall be crushed.

Of the intensely interesting details and processes of this establishment I am not at liberty to speak, but this I surely may say: there was expressed in its well thought out and ordered arrangement, in the permanent character of the structures, the well-made roads—in a word, the thoroughness of it all—the attitude of the British people toward this awful task which is now our task also. Not alone in these respects was there expressed the broad imaginative concept which must have preceded, but in the scheme of management and in the management's attitude toward the value and absolute importance of adequate housing and environment, recreation and the general welfare of the workers, one witnessed the actual fulfilment of a hope. New values had been assigned to industrial processes and to the entire range of the factors contributing. It was evident that no longer was the aim of industry focused upon intensive processes and volume (important as these today) and profit; but the aim was, first, national security and the well-being of all to enjoy that security when it shall have been attained. Surely there must have been some such concept of the task in the beginning, else in the complex processes of execution and management such results could not have been obtained. This industrial community, brought into being during two short years under the tremendous handicap of war, presents the

*Note.—Elsewhere in this issue will be found special correspondence from Mr. Ackerman bearing upon the broad financial and technical aspects of the British Government's extraordinary building developments.—The Editor.*
ENGLAND'S PROGRAM OF BUILDING WORKMEN'S HOUSES

appearance of—in fact is—a well-governed city of many thousands. There are unusually comfortable buildings in which to work; excellent homes and comfortable hostels in which to live—and gardens to plant; institutes and recreation buildings in which the workers meet in social intercourse; churches in which those of various denominations may worship; moving-picture houses where popular American films may be seen for a sixpence; schools, hospitals, stores, markets, and last, but not least, an environment wherein there is everywhere expressed a quality of taste which is not only remarkably high, but thoroughly appropriate. This unique community stands as a permanent exhibit of what the State can do when it acts with the full power of its rightful authority and with a broad enlightened conception of its aim and purpose. It is an exhibit of what may be accomplished by delegating to imaginative men the necessary power and authority; and it is also an example of what any enlightened community can achieve by surrendering its burden of fallacies regarding super-individual rights and the rights of property.

It was refreshing to talk with those who had been responsible for the development of this remarkable organization, particularly he who had been knighted for his services in this industrial field of the war's operations, and to receive from him first-hand what he deemed to be the essential contributing factors to fruition. He emphasized again and again the vital importance, at the very outset, of a broad program looking to the immediate provision of all the factors and elements related to the comfort and the welfare of the workers; for he said that even here, where all these had been included in the original concept, the tremendous call for munitions and more munitions had forced progress upon the purely industrial elements in advance of those related to the workers' well-being. He warned us against giving way to such pressure, for their experience had demonstrated that in the end it was a fallacy to assume that conditions looking to well-being and the provision of amenities (he used this term) could even for a short time be dispensed with. He cited as proof of this certain difficulties with labor, and the temporary character (a black eye he called it) which resulted from the lack of certain provisions of this sort at the start, and he recalled the summoning of every available resource to provide the things which had always been known to be essential to the comfort and the health of workmen and workwomen, but of which war experience had shown the value in so striking a manner that it will never again be forgotten in the industrial future of England.

In his description of the structure of the organization I was greatly impressed with the scope and the simplicity of it all, and, in particular, with the fact that the organization did not limit itself to the work within the factories, but that it was essentially one in which the values related to work, rest, and recreation, had been carefully balanced and adjusted. It is true all activities and interests were focused upon a single purpose, but that purpose was not allowed to overshadow nor to crush others of vital importance. The axis about which this huge mechanism revolved seemed to be the thought that here it would be shown that industry need not crush the souls of men; that huge production may be accomplished, while, at the same time, the condition of the workers may be improved. In other words it was to demonstrate that high social, moral, and physical standards are essential to a nation's well-being in war or during peace.

It was not necessary for him to tell me this, for as I went about the plant and the towns created just outside the fenced-in areas, the thought that such had been the purpose was quite evident. The technique of this accomplishment involves a detailed description of building as well as methods of operation; all that would require many pages—a word must suffice.

At the plant I was greatly impressed with the well-arranged change-rooms; these were not small congested affairs, but extended over a large area and presented in plan the appearance of an architectural project. They were of permanent materials, arranged for men and women, each of the three shifts being provided with an independent unit. There were drying-rooms for wet clothes, the most generous bath and wash-
up facilities, with cheerful lunch-rooms. It was evident here, and throughout the plant, that the comfort and convenience of the workers had been given a consideration quite as serious as that given to the housing of machines.

The streets of the towns had been laid out (in haste to be sure) by one of England’s foremost town planners, Raymond Unwin. Along these streets were disposed the cottages, hostels, shops, and where appropriate in location, churches, schools, institutes, recreation buildings, and all of the essential features of a well-ordered community. In the main, all except the hostels and barracks were of permanent material, and in the spirit of the designs and in the disposition of the various elements there was a charm and, at the same time, a frank recognition of the problem. The work is, on the whole, simple and more direct than the English garden city work with which we are familiar, and I am inclined to think that it is, in many respects, of a higher order of merit than much that was executed in the days of peace. The cold, bitter rain through which I saw this was not sufficient to kill my enthusiasm—I saw it in contrast to our rather stupid efforts at industrial housing.

In its rough outlines, with few trees, and almost no hedges (these were being planted), it was a most significant witness of a new attitude of mind toward the contributing factors to industry. A standard had here been established which would surely give direction to the work of reconstruction throughout the years to come.

To be sure, not all of the buildings are permanent; there are temporary cottages for families, built in the first mad rush of construction. There are temporary hostels for girls, but, in the main, the cottages are permanent, as are the stores, markets, schools, churches, recreation buildings, and hospitals; and repeatedly I was advised against the temporary structure, for it is a dead loss at the end or is sure to become an unsightly element. The cottages built without partitions, and used as hostels for single workers, have proved to be an excellent temporary measure.

It is a pity that I must omit details of the life in such a community. It is not the depressing sort of existence one is apt to assume it to be. Many interesting and vivid impressions remain of my visit, and among them none more interesting and significant than that of a hostel where some two hundred girls are housed. There was in this an orderliness, a tidiness, and an expression of home comfort created by mere colors and inexpensive curtains, and, above all, the home odor of the kitchen, which I passed through while a meal was being prepared, which not only whetted my appetite, but made me realize that there must be a brighter future for not a few as a result of these influences and associations.

To actually see this; to know that it was a reality; to witness an enormous industrial community in which law, order and arrangement prevailed; to see no slums and to realize that in this community there would be no slums; to sense the balance which it is possible to maintain between intensive industry and the normal life of the worker—is to feel a thrill such as one seldom experiences. To realize that this great war is the impulse which brought this thought into being gives to war an added significance, for we know now, long before the end, that it has not been in vain.

As I glanced back for a last impression of this great enterprise, I asked myself, why is it that labor has limited the scope of its endeavor (I assess this by the popular opinion created by its recognized activity) to the question of higher wages and shorter hours? Of shorter hours we know the value, but of the value of higher wage, we may well ask—does it provide that for which it aims? A higher wage does not necessarily bring more adequate housing, nor a better environment, nor social contact, nor the amenities of life. Wages is something easily dissipated or absorbed in higher costs of living, whereas these other elements are of a permanent nature. No possible scale of wages given to the workers in this great establishment, nor in the others I have seen, could have produced the permanent asset to be enjoyed by labor that is founded in these communities.

Would not much more accrue to labor in the end if, in America, a greater emphasis were to be placed upon a program for adequate housing and the provision of the amenities? Were this made the central theme of activity, it is quite possible to forecast what has been accomplished here might also be accomplished in America, and that whatever gain accrued to labor, from time to time, that gain might be established as a permanent enduring value.

London, October 27, 1917.
The Great Chance!

WHAT IS A HOUSE? III

By CHARLES HARRIS WHITAKER

"The State is a physical body prepared for the incarnation of the soul of a race. The body of the national soul may be spiritual or secular, aristocratic or democratic, civil or militarist predominately. One or the other will be most powerful, and the body of the race will by reflex action affect its soul, even as through heredity the inherited tendencies and passions of the flesh affect the indwelling spirit. Our brooding over the infant State must be dual, concerned not only with the body but the soul. . . . What we require more than men of action at present are scholars, economists, scientists, thinkers, educationalists, and litterateurs, who will populate the desert depths of national consciousness with real thought and turn the void into a fullness."

These words were written by A. E.* in his prophetic summing up of the case for what he calls, the "infant State of Ireland." They are so clear an answer to all that frantic questioning which asks why men do not appreciate architecture, and why art has fallen upon such troubled days, that there seems little more to be said. Yet these phrases which are so present with the slow transformation of thought, as war whips and goads us to face the truths which we let sleep for so long, cannot be dismissed with a sigh of relief. In summing up a great synthetic truth, they only point the way for more thinking. All states are in their infancy today, for they stand at the threshold of an opportunity which no man can measure. The wild currents of national life have been caught up in a seething whirlpool. All have been drawn into the vortex. None will emerge to flow along the path by which it entered. We are all given the Great Chance!

What is that chance? How can we translate the vague utterances which come to us on every hand, from our economists as from our poets, from plain men in all lands who have caught the vision of something to be won from the sacrifice and who grope with words in trying to express their faith that "things will never be the same again." Of a surety, things will not be the same, and our faith is that they will be better; that we shall win to a higher form of life; that somehow or other we shall wring great good from great evil. Now all is confusion. Resolution to win is dominant, and necessarily so. The Chance is not yet here but only on the way. Yet we are forced, in many ways, to see that it is in some manner connected with our sacrifice, and that it is from that sacrifice that we must learn how to seize it and use it rightly when at last we have won to it.

If we ask what part the House will play in this new opportunity, we relate the Chance directly to architecture; but we cannot at the same time detach our thoughts from the economic aspects of the world in which we live, for they are the governing factors and will continue so to be. To attempt to solve the problem in architectural terms would be mere stupidity. All of our skill in design and construction is utterly without avail, except as we can fit it into the fabric of that better thing in which we have faith and for which we are making the sacrifice. Indeed, the very future of that art which we hold so dear is locked up in the Chance which is before us. Perhaps this may make it clear that the Chance is not for one thing, or one group, or one nation, but for all. It is a world Chance, then, and just as we have found that no nation can be free until all are free (and as we ought thereby to see that no man can be free until all men are free), so we must understand that we are only part of a world which cannot be right until the whole is made right. The chain of nations is no stronger than the nation which is the weakest link. The whole moves forward no faster than the slowest. Merely to seize upon the Chance as ours alone would gain us nothing. Any bigness of strength or wealth to which we might attain at the expense of others and through selfish use of the Chance would only bring the whole structure in ruins about our heads. That is what Life

has written on the wall of history, over and over again. It is that message which the Chance reveals to us, and nothing else. The letters are so large—how can we fail to read?

Our problem, however, is our own, even though we cannot solve it by ourselves. Let us look backward for a moment and survey one aspect of it in certain figures. Not architecturally, as we are so prone to do when we scan the disorder of our communities and lament the evil which seems to have fallen upon our time, but by striving, harder than we have ever striven, to cut our way through the discouraging symptoms and come at the real disease. Let us begin with the Thirteenth Census of the United States, which will tell us, in economic terms, the whole story of those growing pains which so dismay us when we think of art. There the ethnologist may trace the tale of the colossal migration and the process of race fusion which has been characterized as the “melting-pot” of men. There the economist may read the story of our mounting wealth and of our equally mounting poverty. It is the pity of pities that this laborious work may not be reduced to elementary form and be used in our schools to make the real picture of our country. Its facts should form the basis of discussion between all men and women who really care deeply about the vague ideal which we find so difficult to formulate in words, but which still attaches us to our land so strongly. Ah! that vague ideal! What a task it is to reduce our cumbrous political and economic terminology to words of human import! Yet, unless our national ideal can be translated into words which deal with the everyday lives of men, women, and children, it lacks the foundation upon which we can rear any structure that will be either beautiful or durable.

Let us be humble as we look upon the structure we have raised, and remember that it is not with pride that we should contemplate our vast charities and philanthropies, but with humiliation. They are in themselves a signal confession of our failure to set free the channels through which life must flow if it is to attain to dignity and beauty. In the great epic of America we have been thrilled with the first coming of the pioneer. As he took his way westward into the depths of the wilderness, we have journeyed with him, breathless, in the great adventure.

Is there not then a profound significance—a deep reproach—in the fact that where we once tingled with joy over the picture of the rude “home,” the family “fireside,” the welcoming “hearth-fire,” the sheltering “roof-tree,” we are now content to dismiss the picture from our minds and utter platitudes about “housing”? We even include it in our philanthropies and consign to the pathetic field of charity that which we once glorified as the very essence of our American spirit and courage—the quest of a home!

Bearing these things in mind let us return to the Thirteenth Census, and particularly to the chapter entitled “Ownership of Homes,” for here we are confronted with facts which seem to be a denial of one of the elements that once helped to make up our national ideal. For a whole century at least the United States was the goal of the landless and the houseless of all nations. Some weeks since Mr. Roosevelt uttered a warning over the decline in the number of owned farms and the consequent increase in tenant-farmers. No one who has studied this question in the last decade has ignored its deep significance, but the same fact is equally patent when we study the house. Here, ownership by the occupant has declined in a far greater proportion than has farm ownership. The census of 1910 tells the story in the table on the following page.

The figures for Alaska and Hawaii are of the greatest interest, because they reveal the swifter strides of the same transformative process of ownership in an earlier stage. The difference in the ten-year periods is marked by great descents. In the United States we note a slight increase in home ownership, other than farms, for the period from 1900 to 1910. This is traceable to the middle sections of the country and is probably due to economic causes connected with the first stages of industrial expansion. On the whole, there is every reason to believe that the Census of 1920 will show a further decline, rather than a temporary increase such as that to which reference is made. This assumption, however, is based upon the opinions of those who have studied the question deeply and also by reading from the history of land development throughout the world.

As to the causes which have produced this result there can be but one general answer.
THE GREAT CHANCE!

Under our economic system we have denied the political and social ideal upon which the nation was founded. We have refuted democracy by begging ourselves with crude attempts to solve it in political terms, the while we gave ourselves unbridled license to exploit our land and all that it contained with no thought of what might be the ultimate effect upon ourselves as a nation and upon the democracy we professed to seek. The result we shall have to reckon with. Landlordism has steadily increased until we are in a fair way to actually repeat the very cycle from which men of other nations wished to escape by coming hither. It was an inevitable outcome of the individualism which has passed current for freedom, and constitutes a national acceptance of the doctrine that the whole welfare of the nation is subservient to the right of the individual to pursue his path as he pleases. We have struggled to curb this individualistic wilfulness by legislation, but without appreciable effect. War comes to us with a flaming warning. It tells us that the Whole Welfare must take precedence over the rights and wishes of the individual.

It tells us this by pointing to the spectral figure of national death standing across our path. The figure has always been there. It is always standing across the path of every nation. One by one it has gathered them in since Time was born. It bore away that glory of Greece, the fragrant beauty of which still fills us with awe and reverence. Egypt and Babylon had gone before. Then came Rome, the Gothic Age, the Renaissance—and all are gone. Today, by the light of that flaming torch which carries horrible death and desolate destruction before it, we see the age-old figure looking silently in our faces. Yet we believe in our national destiny so deeply that we are willing to lay down our lives rather than that death should bring that destiny to an end. But Death does not want us, as a nation. Its will is that we should continue to live in full acceptance of our mission and our task. It will only swing the scythe when we have shown by our national life that we have not fulfilled our destiny. Then it will take us, whether we go down unassailed, save by our own inherent weaknesses, or in a supreme but futile struggle against something in which life has renewed the ardor of that purpose which we once had. It is the unconscious perception of such a fate which has led so many men to exclaim: "This war will be the saving (or the making) of the United States." Their realization of this is shadowy and obscure. It is almost wholly within the depths of their subconscious being. They feel instinctively that we must change much if we are to carry out the purpose to which they cling with so sublime a devotion and yet which is almost as obscure, in their conscious minds, as the dim and haunting knowledge that somehow or other we have lost the way, and that we shall find it again through War. It is all vague because it has not been thought out, for thinking on these things, in Peace, is the last task which men permit to engage their minds. War supplies the stimulus and also
shows us the cost of our failure to think. But the
processes by which we attain clearness of
thought and fearlessness of analysis cannot be
summoned by a wish. They die through disuse
and may not be called back. Yet "thought is
the chief glory of man," and it is upon clear
thinking that nations win their right to endure.

But we shall fail disastrously if we do not see
that the silent figure is pointing to the disease
that is within us, as it is within all nations. It is
that with which Death would bring us face to
face. It is that which we realize vaguely. If we
care to know this, we can learn it plainly by
analyzing the fact that modern war does not
depend upon individual valor. Instead, we have
entered upon a struggle of mechanism against
mechanism, and that which we call victory will
lie with the side which puts forth the greatest
industrial energy. It is our discovery of the
colossal need of ships and more ships, of guns
and more guns, which also discovers to us the
fact that our ability to manufacture is limited
by the conditions under which workmen and
their families live. This has always been so
and always will be so, but War gives us a standard
by which we may measure the loss involved
in the national disease of wretched houses—of
abominable houses.

In Peace, we do not try very much to measure
this national loss in any terms. We know
vaguely that it is there, but human life has not
yet attained to economic stature and dignity,
and so we do not care to know the loss. War
makes us far more careful of our men, as soldiers,
than we are of them as workers. We know that
soldiers cannot be as easily and quickly replaced
as workmen, and thus they assume a definite
value. Slowly, here and there, little by little,
In Peace, it is true that we have begun to com-
pute the economic waste of disease, of accidents,
of fire, of incompetence, of degeneracy, of crime,
of insanity. By these efforts we perceive the
economic value of manhood and womanhood to
a nation. War forces this perception to a max-
imum which we do not get in Peace, because it
sets before us a task which compels us to face it
with economic vision. We have a daily national
expenditure made for a common purpose. Every
day of delay means a loss which can be computed
in terms of money. The daily waste could be
computed in Peace, if only we cared. War
makes us care! All life assumes a fuller value,
THE GREAT CHANCE!

will or no, but we cannot in any way find the right solution without asking ourselves these questions; they weave themselves into the figures in the Census with an insistence which almost implores us to find the answer.

Can it be true that the instinct for possessing a house has become a declining factor in our life? Has the acceptance of the rented substitute, in a steadily increasing measure over a long period of years, supplanted that desire to an extent which indicates its permanent passing? Do we admit that the "efficiency" of our life demands subservience, for the great majority, to a landlordism which cannot be escaped? Must we pursue to its cataclysmic end a system which decrees that the workman must relinquish his wish to own a home in order that he may conserve to himself the largest possible measure of economic freedom? The facts offer relentless evidence of the condition to which we have arrived, and the right solution of what we have pathetically termed the "industrial housing" problem depends utterly upon our resolve to study the problem with open minds and with all the facts squarely before us.

In general there are two main solutions, differing perhaps in method only, each of which has its own ardent advocates. One is based upon the premise that we must continue every form of ownership through the minority system until the state takes it over. This means governmental ownership of all land, ultimately, and a resulting control which will put an end to the appropriation of the unearned increment by the individual, end the disasters of land speculation, and make all land-tenure subject to right use for the common good. The other insists that we shall break up minority ownership, including that which takes the form of landlordism, by democratizing industry and thus conferring economic freedom upon all workers. The negation of the question is found in the answer of those who wish to perpetuate the present system and who adhere firmly to the principle of "vested rights." Perhaps this way will make them see that no system is imperishable and that the larger meaning of democracy will compel further rearrangements, such as those which have taken place in England, in Germany, in New Zealand, and even in our own country, where recognition of the problem has manifested itself in our regulatory acts governing the use of property and the kind of buildings which may be built.

In trying to convert that larger meaning of democracy into terms of everyday life, we shall, however, have to face the dual problem. We cannot concern ourselves solely with the body of the state. We must give equal, even greater, consideration to its soul—to that soul which can be no greater than the sum of our own souls. We must ask ourselves fairly and squarely, without cant, hypocrisy, sophistry or casuistry, what kind of men and women do we intend to make in our offices, shops, factories, mines, and fields? What kind of wives and mothers do we intend to make in the homes of those workers? What kind of children do we intend to make in the desolate monotony of our urban streets and amid the tawdry ugliness which blights our communities, large and small, as with a plague? No nation has ever asked or sought the complete answer to those questions. Yet that is the first answer we must seek. There is no larger meaning to democracy until we do seek it. It is the only worthy concept of our right to existence. Until we have fearlessly, and with the purest patriotic fervor, searched out all the facts in our national life, and bravely grappled with and destroyed every cancerous growth, there is no solution of any problem, and all our palliatives do but heighten the fever of unrest under which we labor—the same fever which has swallowed up empire after empire, kingdom after kingdom, state after state.

Yet, as we contemplate them lying stark and cold in their physical death, we are made aware of the immortality of their soul. The fragments of their life which have come down to us in art and letters are only messages of their soul to ours, so rich in their import, so frail in their being that we treasure them tenderly as the most precious of our inheritances and cry out with bitter anguish when the hand of man ruthlessly shatters the vessel in which their beauty is imprisoned. Is that message no more than a passing emotion?

How are we to cultivate the soul of our land that it shall bear such fruit? Where lies the key with which we may unlock those latent yet potent deposits of national life, in which alone can be nurtured the flowers of a superior civilization? We cannot search for the key in any museum, or university, or church, or in
any political institution or form of government. No! It is amid the mazes of our modern mechanic development that we must look, in our factories, our shops, our mines, our fields. In the great highways and byways of commerce and industry, of invention, of engineering, of transportation, in the wonder of the aéroplane, the automobile, the telephone, the blast furnace, the ocean liner, the dynamo, the rotary press, the awe-inspiring process of making a watch, of tunneling the Hudson, of bridging the St. Lawrence. Into all of these things we have poured the treasure of our soul in a sublime effort to reduce matter to the service of mankind, and we have let our soul go awandering because we forgot the man in the process!

In the driving processes of production, we failed to count the cost of our forgetfulness of man, which, unchecked, means national death. No period in history has ever made so brilliant an achievement in the service of men—none has ever more thoughtlessly, ruthlessly, and brutally inflicted suffering upon mankind. For we must remember that suffering is more acute when it is long drawn out and when men see and ask why their life and the life of their children should be broken and swallowed up, unlived, in the process of making others comfortable. Such suffering, which means spiritual starvation, embitters the springs of our national being with doubts, suspicions, and disloyalties.

In war, we think in terms of human beings. We do not try to measure the misery of Belgium, of Servia, of Poland, in dollars and cents. We measure it by anguish of mind, by suffering of soul, by the weeping of women, the hunger of children, the agony of fathers, the crushing of life! We are struck to the very heart with a mounting groan of human beings crying out in the pain of that which is worse than death. Can we not think in these terms in times of peace? Can we not learn to think of industry in terms of human import?

It is not that we wish to make the struggle easy. We want it to be hard—even to the breaking-point—so that life may be full of flame and fire. But we want the reasons for it to be fine and full of beauty. We want all life to be lived in its richest fullness and to make its uttermost contribution to the life of today and of tomorrow. Be not misled into thinking that such a standard of measurement has no connection, save a sentimental one, with our economic structure. No graver error could ensue than to dismiss the thought as one without practical value, for in freeing life for this service we also multiply its economic usefulness a thousand-fold! As we raise the standard of quality in men, so do we inevitably raise the standard of quality in all that they make and buy and use. No unexplored depths of our economic house offer so rich a field for adventure and recompense as the dark cell in which we long left the soul of the nation! But, if we are to seize our chance and find that soul, we must approach all problems over a new path, and it is in trying to make such an approach that we shall endeavor further to study the problem of building houses for workmen, both in war and in peace.

"I do not put my faith," says Tagore, in his preface to Paul Richard's "To the Nations," "in any new institution, but in the drainage of those stagnant moral pollutions which give rise to poisonous vapor. For this we are to look to individuals all over the world who must think clearly, feel nobly, and act rightly, and thus become the channels of universal truth. For this truth once introduced goes on with its own living creation, overcoming all hindrances. Our moral ideals do not work with chisels and hammers, but like living seeds in proper ground spread their roots in the soil and their branches in the sky without consulting architects for their plans. What is necessary is purity in thought, and feeling, and will, and the rest will follow."

(To be continued)
Government Aid to Housing in the Light of Foreign Experience

By FRANK BACKUS WILLIAMS

WITH the sole exception of the United States, all the progressive countries of the Western world—Great Britain, France, Germany, Italy, little Belgium, Holland and Denmark, far away Australia—and many others that we are inclined to regard as less advanced—Spain, Roumania, India, Chile, Cuba—have for many years, as a part of their normal peace policy, given public aid to the housing of those classes in the community requiring small dwellings at low rates. The reason why this policy has become so general is because everywhere in the civilized world there is a scarcity of dwellings of this character, which the efforts of the commercial builder, supplemented by those of the philanthropist, have failed to relieve; and government aid seemed to be the only remaining solution of the problem.

Before the War

The aid which European governments have given to housing in times of peace has been continued, and in many cases increased, during the present war. That this has occurred is most remarkable, in view of the unprecedented demands upon the resources of these governments which the war has made. The war seems to have brought home to Europe as never before the need of proper housing for all classes in the community and the necessity of government help in obtaining it.

Prior to the beginning of the war in Europe, in spite of the fact that the need of the cheap house in this country was acute, and the prospect that private initiative would supply this need adequately was at best remote, there seemed to be little probability that our government would give financial aid. The reason for our failure to adopt the remedy regarded as necessary by practically all the rest of the world was twofold: In spite of much expert opinion here in its favor, we did not as a people regard housing as an activity in which our government should engage; and we did not believe that, however desirable it might be, we could in this country legally adopt such a policy.

The Effect of the War

The effect of the war upon the housing situation in the United States has been very marked. Soon after the struggle began in Europe, the cost of materials and labor, and the rate of interest and profits, rose sharply. The effect of these increases varied greatly in the different parts of the economic field. The production of goods for immediate consumption, although decreased, continued to be sufficient to meet most of the immediate and pressing needs; since the consumer paid for these goods at once, their price could at once be increased to meet the higher cost of production; and the fear of lower prices of material and labor after the war did not lessen the output. In the field of housing, however, the situation was radically different. A house is constructed to last many years, during the whole of which period, if an adequate return on the investment is to be obtained, adequate payments for its use must be coming in. In housing, therefore, lower construction costs after the war, and the competition of cheaper houses which it would ensure, would make houses built at present prices a losing venture. The result of this possibility was therefore an almost entire suspension of construction of the more moderate-priced houses.

Soon after the war started, European governments began to place huge war orders in this country. The filling of these orders necessitated the enlargement of many existing factories and the building of new ones, partly in localities already built up, partly in places where there was no provision whatever for housing. The corporations receiving these orders, and the localities where they were situated, neglected at first to make anything like adequate provision for the large numbers of workmen who, with their families, would be necessary in the conduct of the business; and later, on account of increased costs and increased demands of every sort, were utterly unable to do so. The resulting hardships to the workmen and those dependent upon them, and the social unrest, disorder and crime, inevitable under these circumstances, which ensued, are so familiar to the readers of these columns that they need not be restated.

The Situation in the United States

Recently, since the United States Government has entered the war, it has enlarged many of its works, built new ones, placed large orders with existing factories, and given contracts to corporations, necessitating the building of new factories, all without provision or regard for the housing of the labor essential to these undertakings. Already the result has been greatly to aggravate a situation which was very grave before, and, unless relief on the huge scale commensurate with the existing and threatened evils is speedily provided, the cumulative result will be intolerable. It is in this crisis that earnest students of social conditions in this country and the general public are asking themselves more seriously than ever before whether or not this country should, perhaps, as a part of its normal activities in times of peace, perhaps only as a war measure, adopt the policy of government aid, state or national, in the housing of its working classes of more limited means, and, if so, whether it is possible under our law to do so. It is the legality of such a policy, and the best methods in the light of foreign experience of carrying it out, with which this article is concerned.

Financial aid, given by the Government to housing or any other activity, involves the use of public money. This money in this country must be obtained by taxation.
The consideration of the legality of Government aid to housing in the United States is therefore the consideration of the legality of the use of public money and of the power of taxation for that purpose.

The Field Conflict of Federal and State Authorities

In a federated government like ours, certain matters of national importance are within the jurisdiction of the United States, and others, of local importance, are entirely within the control of the individual states, or the local governments subject to them. Normally, housing within the separate states is exclusively a matter to be dealt with by state laws. Thus, prior to the entry of the United States into the war, the housing evils due to the placing of war orders from abroad in various localities were a matter of state concern. The only power which the Government of the United States would seem to have in such questions is that of investigation and advice. Thus, although the cultivation of the soil in the various states is a state matter, the United States has a Department of Agriculture which, by its researches and its advice given to agricultural colleges and individual farmers within the states, has done a work of great importance. There is need of similar assistance to the municipalities of this country, not only in housing, but in city and town planning and many other municipal affairs; and the National Government is the authority best fitted to render such assistance. The suggestion has been made of late that the United States should have a department or bureau of local affairs, with power of investigation, publicity, and advice. Actual, direct financial aid to remedy housing evils within the states with which as a government the United States has no relation would seem to be beyond the legal power of the central government.* Is it within the power of the states?

As a general proposition it is well settled that a state may raise money by taxation, appropriate money, or authorize any local government within its limits to raise or appropriate it, for any public purpose but not for private use. To the layman it would seem clear that money employed to assist in providing a necessity like houses, when otherwise they would not be forthcoming, or in providing them at a more reasonable price for a class that otherwise would not be able to obtain them, was used for a public purpose, especially when it is universally admitted that the home is essential, not only to physical, mental, and moral well-being, but to good citizenship, and therefore to the very existence of the state. In many of our states, however, the courts have decided that aid to a private person, in his private affairs, is not a public use of money, even in those cases in which this private advantage is for the welfare of the state. The decisions, however, seem to depend upon what, at various times in the past, has been, and has been admitted to be, public policy rather than upon reasoning that has any intrinsic soundness. For instance, it has been held that a municipality may be authorized, under existing state constitutions, to supply the citizen with light and heat in his house, but not with coal. Recent decisions of the Supreme Court of the United States, too, have held, contrary to this state doc-

*The National Government has, however, under legislation passed in 1916, established farm-loan banks for the purpose of lending money to associations of farmers in the various states.

The Massachusetts Experiment

The state of Massachusetts, since the war in Europe began, has thought it necessary to pass an amendment to its constitution in order, tentatively, and on a small scale, to undertake state housing, and Pennsylvania has appointed a commission to consider the advisability of doing likewise. These states are undoubtedly wise in amending their constitutions before attempting, ever so slightly and tentatively, to extend aid to housing; and it is probable that other states, wishing to adopt such a policy, will follow the same course.

Powers of States

Amendments to the constitutions of the states, authorizing public aid to housing, to be valid, must be in accordance with the Constitution of the United States, as interpreted by the Supreme Court of the United States, and that court will sustain them only if it holds that such expenditures may fairly be said to be for a public use. It seems evident that the Federal court would decide for two reasons: The decisions of that court already referred to indicate that this is its opinion; and, moreover, in deciding what may be upheld, under state authority, as a proper use of public money and the power of taxation, the court has uniformly paid great respect to the judgment and will of the state, as expressed in these enactments and the decisions with regard to them. Indeed, a profound student of the subject, after a careful examination of the cases available, has found that, "In its decisions of this question the Supreme Court of the United States has never overruled the decision of a state court that a given purpose, for which state taxes had been levied, was public in character."*

The amendment of state constitutions is a much easier and quicker process than a similar change in the constitution of the United States. Nevertheless, it is evident that if state aid must await the passage of amendments to state constitutions, and legislation under them, aid from this source will not be available in the present crisis. The central government, as we have seen, has probably no power to give such aid in time of peace; does it possess that power in time of war?

The Federal Government and the War Emergency

Under the national constitution it is the Government of the United States which is given the right to declare and wage war. Ever since the great decision by Chief Justice Marshall of the Supreme Court of the United States, in the case of McCulloch vs. Maryland, it has been unquestioned law in this country that the powers necessary and proper to carry into execution the powers expressly given by the constitution, or, as Marshall puts

14 Wheaton (U. S.) 316.
GOVERNMENT AID TO HOUSING

In one passage in his opinion, all rights “incidental to the power and conducive to its beneficial exercise” are as much granted as those expressly enumerated. The legal question whether it is necessary and proper for the United States, in time of war, to give its aid in order to secure proper housing conditions of the people directly, or indirectly employed by it in war preparations resolves itself, therefore, into a question of fact. Previous practical and legal decisions of this question, based as they necessarily were upon the situation as it existed before August, 1914, are out of date; it must now be regarded in the light of the radically different situation as it exists at present. So viewed, there would seem to be but one answer to it. Labor is now, as always, an essential part of the productive process; a provision for the reasonable needs of labor is a part of the industrial plant essential to the prompt and economical production of equipment for war use; a fair treatment of labor in this as in other respects, is essential to the welfare of labor and of the community; private initiative, whether that of labor or that of capital, does not and cannot, under present conditions, supply this requisite. Therefore, it is not only “conducive to the beneficial exercise” of the war power, but “necessary and proper” to its efficient exercise that this requisite, like any other, should in default of any other means of supplying it, be furnished by the Government as a part of its preparation for and conduct of the war.

If it be admitted, as many are now inclined to admit, that a remedy for the more serious housing evils connected directly or indirectly with the conduct of the war must come from the National Government, it nevertheless remains true that there are serious difficulties and disadvantages which threaten us if we adopt as a remedy the granting of the aid of the National Government to industrial housing. These difficulties and disadvantages, however, may in large part be overcome by the choice of proper methods of extending this aid, and in the absence of experience on this subject in this country, much may be gained by the study of foreign procedure.

One difficulty in all government undertakings is the absence of those incentives and restraints incident to private initiative. This is especially marked in enterprises involving small details in large number and variety, such as the building of many individual houses of small size, in many different localities, for different classes of tenants and owners, the designs of which should vary to fit the varied individual needs. This difficulty has been met abroad by the policy, becoming more and more general as time and experience have proved its value, of making loans for buildings rather than actually constructing them. These loans, in peace times at very low rates of interest, are granted to corporations, in England called public utility companies, which agree to limit their dividends to 4 per cent or 5 per cent and to devote any surplus to new construction. Such corporations are able and compelled to give close attention to details and thus keep their rates and prices at a minimum and still remain solvent, and in so far as they themselves build, to adapt construction to individual needs and tastes. In some cases the government simplifies its task still further by lending to a few large corporations, which in turn lend to the smaller ones.

In this country a few companies similar to the foreign limited dividend companies have been formed at various times, and individuals and groups of corporations have founded or financed them. They are not, however, general here. Perhaps the building and loan associations, so numerous in the United States, could be induced to undertake a share of the work, and, in the present dearth of houses, with the advantage of sufficient government aid and encouragement, no doubt corporations for the purpose would be founded in greatly increased numbers, not only by public-spirited persons, but by enlightened industrial corporations embarrassed in their work by lack of such facilities for labor. From many points of view the system of the recent Federal Farm Loan Act, under which the Government, through banks created by it, loans directly to associations of farmers in the various states, would be advantageous in the field of industrial housing. A plan under which government loans were made to associations of laborers would not only eliminate intermediaries but would tend to check the increase of landlordism, which has been found so formidable an evil in Europe and which is growing so alarmingly in this country.* To this plan, however, there is the serious objection, referred to later in this article, that unless modified and adapted to its new use, such a plan tends to lessen the mobility of labor.

Methods of Financing

In peace times the various European governments have lent money to limited dividend corporations at from 2½ to 3½ per cent. In England, I am told, the rates have now risen to 5½ and even 6 per cent. The amounts advanced in peace times in the different countries have been all the way from 50 per cent of the value to 90 per cent of the cost of the house and land. In England the proportion advanced by the Government was in peace times usually about two-thirds of the cost or value, and, I am told, as a war measure, the amounts have been increased to 90 and even 100 per cent (and more) of the cost. It is probable that we in this country at this time, if we adopt any such methods of aiding housing, will be compelled, under the industrial and financial conditions now prevailing, not only to advance the entire cost, but to agree to allow the companies to write off a portion of it, as has been done in various ways as a war measure in England, for, otherwise, after the war, when construction has become less expensive, the companies would be compelled to repay more than the worth of the houses. Such an arrangement would still be advantageous to the Government, for the values of the houses, if publicly owned, would decrease just the same; the plan suggested would secure to the Government the gains incidental to private initiative, and if the companies were bonded or the share-holders were made individually liable to the amount of their subscriptions, the Government would be sure of repayment of the amounts due it.

Another danger which the policy of public loans, rather than public construction, tends to obviate, is the lessening of private construction which public competition usually causes. The Government is not obliged to rent or sell its houses at the market rate, and often in its attempt to relieve the situation as much as possible, or on account of...
political pressure, accepts less than the market return, covering up the loss, perhaps, by juggling with the figures. The fear of this unfair competition discourages and greatly lessens private building, and, thus, often government assistance, unwisely given, decreases the available housing supply rather than increases it; for the number of houses publicly built will always be very few in comparison with those due to private enterprises. Where, however, the Government lends to private parties for construction, this danger is, to a considerable extent, avoided.

One exception to the growing tendency abroad to aid housing conditions by loans, rather than by construction, is in the housing of the Government’s own employees. In this field, national, state or provincial, and city governments have always followed the plan of themselves building houses for sale or rent to those whom they employ, national or state governments often lending to cities to enable them to pursue this policy. It is probable that our Government would be compelled, to some extent at least, to build the houses for those whom it directly employs, in so far as there is a lack of such housing.

A second disadvantage likely to occur in housing enterprises undertaken by a central government is a lack of adaptation to local conditions, due to lack of local knowledge and control. Abroad this danger is in part met by the policy already mentioned of loans to individual corporations, rather than government construction. In Belgium (in the days before the war) and France, even now, this difficulty is further overcome by the formation of local committees of control. Housing is not only an individual matter but a local one, and should fulfill local needs and conditions in the communities in which the houses are constructed. In these days, when the need of intelligent city and town planning in conformity with local needs and conditions is—in theory at least—so generally recognized, the importance of such conformity will be generally admitted, and, evidently, in a democratic country like ours, local representation is the proper method of securing it. In the limited time at the disposal of the Government in this crisis, it may not be possible or necessary to form local committees for this purpose, as was done abroad in the more leisurely times of peace, to meet the less urgent needs of a more fortunate period. However, this branch of activity of the general Government should at least be in charge of a large committee, so appointed as to be drawn from all parts of the country where the war preparations of the Government have, directly or indirectly, caused a housing famine, a small executive committee, of course, being chosen for effective control.

The Position of the Workman

In any housing policy which we may adopt for the benefit of labor, we must be careful to follow courses which commend themselves to the labor which we are attending to serve. Employees, in this country and England, feel that by living in houses owned by their employers they are placing themselves in the power of these employers individually; and that by buying homes they are rendering themselves immobile and unable to seek their best interests, wherever this search may lead them, thus putting themselves in the power of their employers collectively. Nevertheless, it is clearly a part of the employer’s duty, under a régime in which the employer is responsible for the direction of the enterprise as a whole, to see that the men have an opportunity to obtain suitable housing. In England, a way round this impasse has, to a limited extent, been found by the formation of housing copartnerships in which the laborer owns, not his home, but shares representing it, that he may hold as an investment, or sell, if he moves away.

The laborer in this country is not as yet accustomed to the ownership of a part interest in property, and so has not been favorably inclined toward the copartnership idea. To a limited extent, groups of employers, seeking to do their duty toward those they employ, to secure the advantages to be derived from well-housed help, and to avoid the difficulties arising from the suspicions of the employees that the housing plan is a means of control, have formed housing corporations, with charters so drawn as to prevent any one corporation, or all together, from dominating or using it to the disadvantage of their laborers. In small numbers, too, independent limited dividend housing corporations have been formed. Apparently no sufficient solution of this problem has as yet been found in this country. There is not this difficulty, however, in the housing by the Government of its own employees, for representatives of labor undoubtedly would be given their share of representation in the management of the property.

Hard as it is at all times to extend government aid wisely to the housing of our workers, and especially hard as it is to do so at this time, nevertheless, in this crisis such aid is imperative. War, today, is an industrial struggle, and all experience shows us that a proper provision for the needs of labor, of which necessary housing is the most important, is essential to its success.

The Necessity for Wise Action

In this housing which we shall undertake, we should see to it that the established principles of housing and city and town planning are followed. To ensure this result, the national committee should contain experts in housing and city planning. In this crisis the National Government, with its great power, in its haste and impatience, is all too likely to neglect all such considerations. Already, in many cases, it is locating its works in places where provision for housing is difficult and expensive, if not impossible; failing to plan for housing as a part of its general plans; violating plain principles of economical and efficient planning; and inflicting expensive and inefficient makeshifts for all time upon localities powerless, in the present state of public feeling, of preventing the imminent injury. In the keen competition, more severe than ever before in the world’s history, which will surely follow the war, these obvious blunders will cost us dearly. Foreign governments that formerly made these mistakes occasionally are making them no longer. Even in the stress that is so much more severe for them than for us, they are not needlessly, as we are, overlooking the future. There is still time for us to avoid many of the impending mistakes, and the only method of doing so is to proceed on the principles which the experience of the world has proved to be sound, efficient, and economical.
Sixth National Conference on Housing in America

Chicago, October 15 to 17

Legislation establishing minima of mere decency in human habitation and the enforcement of such, even when successful, are like the perfume used two centuries ago by the French dandies to neutralize the bad odors which common soap and water might have removed. Many of the discussions of the Conference whose sessions were rather prolonged, hinged on just such superficial matters rather than the fundamentals. One did hear less than usual, however, of minimum ceiling heights and window areas and other physical details of the usual housing legislation, and there were some highlights and sparks of hope which promised well for the future.

Mr. Armstrong, of Canada: The problem seems to be not to change workingmen's houses but to increase workingmen's wages so they may be able to afford better houses.

Mr. Parker, of the Massachusetts Homestead Commission: The problem is more than the adjustment of the cost of the house; it is the building of a house which will return the largest dividend in the character of the family, the neighborhood, and its citizens!

Mr. Dana, of New York: Good housing is now recognized as good business rather than philanthropy. The good house must be planned sympathetically and should be good enough for anyone to live in, not merely good enough for the worker. Everyone should have a chance to live not only decently but attractively. Attractive building does not depend on elaboration but rather on good proportions and good color-schemes, neither of which need involve any additional expense over poor proportions and hideous color-schemes.

Miss Marcia Mead, of New York: In reducing the cost of workingmen's homes, we begin at the wrong end. We usually begin with the very minimum of a human habitation and add such flourishes and enhancements as can be afforded. Far better results might be had by beginning with a well-equipped house of good quality and eliminating such things as are not absolutely necessary and which cannot possibly be afforded.

The Conference was getting more hopeful every hour when there came upon the scene a representative of a company selling "ready-cut" wooden houses such as are "made by the mile and sold by the yard," and told us of the remarkable achievement of his company: Until 1916, England had refused to consider the ready-cut wooden house in any way, but such were the virtues of his particular proposition that recently 600 ready-cut houses were sent into England and 600 more were ordered and ready to be sent as soon as boats were provided. It looked as if England had abandoned her partiality for brick and similar materials. He was proud of the achievement. To me it seemed like desecration.

At the evening sessions various reports were made. Mr. Hiss reported that the Government was at work on the solution of the grave problems involved in the industrial housing shortage in this country, and that progress was being made. Miss James gave an interesting review of the housing activities of England, which are being illustrated in the Journal, and Mr. Whitaker's keenly analytical paper on "Housing as a War Problem" was read. Major Starrett gave an interesting talk on the "Housing of the New Army." This was illustrated by moving pictures and lantern slides of the cantonment building operations and was discussed by Mr. E. H. Bennett, who assisted in planning the Rockville cantonment, and by Messrs. John Iddler and Lawrence Veiller, who were consultants in the housing details of the cantonments.

The last two luncheon meetings were the most interesting and valuable meetings of the conference. The first was devoted to "Chicago's Housing Problems." Mr. George Hooker, of the Chicago City Club, argued that Chicago's housing problems were too big for Chicago, that the housing problems of any city were too big for that city, that proper housing regulation was a national problem and should receive national attention. Dr. Graham Taylor discussed the relation of the house to the neighborhood; how our community institutions—the voting precinct, the school, the church—all were really neighborhood institutions and so, "back to the neighborhood must we hark for the progress of our citizenship and our nation." Mr. T. Arnold Hill made an earnest plea for the provision of special negro housing. He showed by actual figures how the negro was being exploited, how the only houses available to him were those which had been discarded by whites and that, when these houses were given over to negro occupancy, the rents were usually raised 25 to 50 per cent over those of the former tenants. The result of this was, of course, extreme overcrowding with its consequent delinquency, immorality, and disease. Last came Miss Harriet Vittum with her simple dramatic story of "The House and the Delinquent Child." She said that, under the existing housing conditions in the slums of Chicago, young girls—future mothers—must become unmoral if not immoral, that proper housing was absolutely essential for proper future citizenship, and pointed to the significant fact that in Chicago the spot maps for juvenile delinquency, tuberculosis, high death rate, and bad housing, all pretty nearly coincided as to spotted areas.

At the last luncheon meeting, Mr. Lawson Purdy, of New York, spoke on the "Zoning of Cities." In the most simple and lucid way, he discussed the philosophy of zoning, its necessity and its advantages. Mr. Purdy asserted that "it can and must be so regulated that every building should be a sound, stable investment and a suitable working or dwelling-place for human beings," and that "the individual who builds a home in a neighborhood in good faith has a right to say to the community that it should protect him in the use of his home." As to the constitutionality of zoning, it was largely a matter of education of the courts and if, in any state, zoning were found unconstitutional, the thing to do was to change that particular constitution.

Comparing such statements as were made repeatedly by delegates from different parts of the country, the following conclusions may be made from the discussions and reports of the Conference:
Multi-Family *versus* Individual Houses

**II**

**A REPLY TO MR. HENRY ATTERBURY SMITH BY MR. JOHN IHLDER**

Mr. Henry Atterbury Smith, in the September number of the Journal, asks us if we "have ever pushed down to the fundamentals of "this stuff about the individual house for the employee in the industrial town." Presumably we have not, so he pushes for us. But first he asks if we are "sure that the lowest paid in the factory are being housed at all, or are they boarding, rooming, or crowding? If not, they soon will be." Let us assure him at once that there is no "if" or "will" about it; they be. And then, as even the most patient readers and other worms occasionally do, let us turn and ask him for figures to accompany his drawings demonstrating that the poorest paid can be housed in his ideal multi-family buildings at "five families per acre" with "heating, sewage, domestic hot water, lighting, power (for sewing and other light machines)." These are all most desirable, and figures, showing how they may be obtained by the man who earns $15 a week or under, would make us all join the ranks of the late Governor Bliss' "optimists."

But still we do not gather from all this any indication of why the multi-family house is superior to the single house, except that the accompanying illustrations are of multi-family houses. The argument apparently is contained in the fifth paragraph. "In cold climates how can each family shovel coal, or in warm, have enough energy left after a day's work to look after plumbing, shutters, gutters, and leaders? Why should we foist all this work upon the individual occupant. . . . when he or she or both have had a hard day's work in mill or factory or mine, and who are supposed to have a family of children besides? The answer is to be found in the word exploitation at times. . . ." "How can the general run of house occupants know how to take care of their real estate in such manner as will cause it to last and not become a source of expense? Even the most intelligent of us seem not to understand how to make a household out year after year. No, the answer is a multi-family house, with expert repairmen constantly on the job, men who like such work, just as other men, like myself, hate it. . . ." There is a little more about tinsmiths and plumbers and painters and garbage incinerators and women to collect rents and cooperate with the families in regard to their varying necessities.

Surely there never was a more logical and convincing—and entertaining argument than this. Yet, if it were not for the words, "No, the answer is a multi-family house," I would be willing to offer a prize to anyone who could guess what the writer was driving at. Except for those seven words, every contestant would declare that he was inveighing against home-ownership. For everyone would know that single houses may be, and often are, rented as well as sold, and many would know that with single houses central heat, hot water, garbage collection, repairs by tinsmiths, plumbers, painters, and others, are sometimes supplied to the tenant. As for women rent-collectors, one of the best known in the country works in Mr. Smith's own city of New York and the houses under her care are nearly all single houses.

It is to be regretted that Mr. Smith did not demonstrate the superlative excellence of multi-family houses for the families of children whom he mentioned in passing.

John Ilder.

A Small-House Competition

In connection with the Real Estate and Building Show at Columbus, Ohio, on January 21 to 30, 1918, the Columbus Chapter of the Institute is conducting, in cooperation with the Columbus Real Estate Board and the Builders and Traders Exchange, a competition open to all architects, the subject of which is a house to cost $6,000. There are seven prizes, ranging from $200 to $5. Participants may be obtained by addressing the Columbus Chapter of the A. I. A., Columbus, Ohio.
A Last Message from Auguste Rodin to the Artists of America

A SHORT time ago when M. Rodin was asked to write an article for the Journal, he pleaded, not so much the temporary fatigue which had brought him to Rome for rest, as the depression under which he suffered keenly. To him the war was a constant sorrow from which he could not free himself, and that it hastened his death, which occurred at Meudon on November 17, scarcely may be doubted. "But I will give you a thought for the Journal," said M. Rodin, "and a greeting to my friends in America." Perhaps if he had written the article we so much wished it could not have more faithfully conveyed his message than the few words which he wrote for us upon a sheet of letter-paper, and which we print in facsimile above.

The illustration at the left is from a very recent photograph of M. Rodin and his wife, taken at the home of Mrs. John Marshall in Rome; that at the right is of M. Rodin in his studio.
SAINTE GENEVIÈVE

OLD PARIS (1860)

Drawn and lithographed by Ph. Benoist,
the figures by A. Bayou
Drawn and lithographed by Ph. Benoist and Eugene Ciceri, the figures by A. Bayot

The Invalides

Old Paris (1860)
THE CHURCH OF SAINT PAUL AND SAINT LOUIS

OLD PARIS (1860)

Drawn by Chapuy, lithographed by Fichot, the figures by J. Gaildrau
The Tour St. Jacques and the Rue de Rivoli

Old Paris (1860)

Drawn and lithographed by Ph. Benoist, the figures by A. Bayot
THE BOULEVARD AND GATE OF ST. DENIS

OLD PARIS (1860)

Drawn and lithographed by Ph. Benoist, the figures by A. Bayot
Place Vendome and Rue de Castiglione

Old Paris (1860)

Drawn and lithographed by Ph. Benoist
From Our Special Correspondent in England

I. THE STATE AS THE ABSOLUTE AGENT OF CONTROL IN WAR

In England's program of industrial preparation, visioned in the Defence of the Realm Act, there are four factors of tremendous importance. These warrant emphasis, for three years of experience have demonstrated that it is absolutely necessary for the State to exercise the powers therein set up. Broadly speaking, the first relates to that power which enabled the State to take for its own use whatever it required. That was an arbitrary power, but it was necessary. The long, involved processes of formulating all of the complex conditions surrounding the terms of acquisition and settlement were left for future consideration. It was not until 1916 that the Defence of the Realm (Acquisition of Land) Act, which set up the mechanism for handling this phase of the problem, was passed. This is an important piece of legislation, for in its scope it includes such details as:

- Continuation of possession of land occupied for purpose of the defence of the realm;
- Power to remove buildings and works;
- Power to acquire land permanently;
- Power to sell land acquired under the Act;
- Provision as to highways;
- Provisions as to water, light, heat, and power companies and authorities;
- Payment of compensation and purchase-money;
- Application of building laws;
- and sundry other details, together with a schedule consisting of a number of modifications of the long-standing Land Clauses Act. Then Number Six of the Schedule is of vital importance, and I quote:

"In determining the amount of compensation, the value of the land acquired shall be taken to be the value which the land would have had at the date of the notice to treat if it had remained in the condition in which it was at the commencement of the present war, without regard to any enhancement or depreciation in value which may be attributed directly or indirectly to any buildings, work, or improvements, erected, constructed, or made on over or under the land, or any adjoining or neighbouring land for purposes connected with the present war wholly or partly at the expense of the State, or, with the consent of the occupying department, at the expense of any person not being a person interested in the land."

The second outstanding factor is that the State immediately assumed the initiative in production of munitions of war, and it is interesting to note that under the broad definition of munitions there are very few things produced which are not so included. The scope, therefore, of State activities in production was very wide. There was no waiting upon individual initiative; land, factories, houses, hostels, heat, light, power, and transportation were provided. As yet, I have had but a glimpse of this great fabric of industrial preparation, but what I have seen leads me to state without hesitation that we have in America no alternative but to follow a similar course. It was the full and complete acknowledgment of this simple truth that led to the development of the remarkable program of industrial housing. For the moment it does not matter how many people have been housed, or what it has cost, or what proportion of the expense was borne by State, local authority, or private capital. The point is simply this: As rapidly as materials and human energy could be collected and directed toward this end, adequate housing was provided.

The last point of emphasis is that which relates to supervision and control of workers both within and without the factory. Here, by a remarkable system of inspection and supervision the State has extended its powers far beyond any hitherto conceived limit.

Control of Living Conditions

The control of living conditions in towns and cities where it has not been necessary or possible to erect cottages or hostels has been achieved by the passage of the Billeting of Civilians Act, 1917. Through a Central Billeting Board, operating through a local authority and committees, surveys of housing accommodation have been made wherever conditions warranted, and civilian workers have been billeted upon the civil population. I will later take up in detail the operation of this Act. For the present it is important to note that it is possible in some cases to billet a working population equal or greater than the population disclosed by the census. It has been possible through the powers conferred to relieve congestion and increase the capacity in towns where it was assumed that conditions were very bad. While this seems at first thought to be a very drastic measure, yet experience shows that such is not the case, that it may be operated to the actual advantage of the entire civil population, that through the control thus established the exploitation of the worker is entirely eliminated. It has the tremendous advantage of conserving materials, for if workers can be adequately housed in structures already erected, the great saving of labor and materials thus effected is obvious.*

It may be difficult for us to accept the idea of almost absolute State control over affairs which we have hitherto deemed to be essentially private; but I repeat with emphasis my opinion, based upon a knowledge of our capacities and traditions and on a very rapid survey of results accomplished here, that we shall fall short of doing our share, that we shall fail in our purpose, if we in any way hamper or deflect the State from assuming absolute control, and of directing the sum total of our energies toward the immediate purpose of bringing this war to a close. This is the lesson I have learned in my few days in England, not alone from my interviews, but from all whom I meet, and above all from the temper of a people who have learned through three years of bitter experience the meaning of "war!"


(*It will be recognized that conditions in the United States both as to the heterogeneous nature of our industrial population and density of settled area would make the operation of such an act more difficult than in England.—The Editor)
II. GENERAL ASPECTS OF FINANCING EMERGENCY HOUSING IN ENGLAND

The following memoranda relate merely to the larger financial aspects and the general policies pursued by the British Government in its effort to provide such housing accommodation as was found necessary to meet the conditions surrounding the manufacture of munitions of war.

No statistics as regards total or unit cost, nor of the total number housed, are included; and the statements made express the consensus of opinion among the many with whom I have discussed this question of policy in the Ministry of Munitions. It is important to note that the opinions expressed are the result of three years of experience, and are therefore of tremendous value as regards the solution of our similar problem.

At the outset, it is of the greatest importance that we should keep clearly in mind the fact that England had already created in the Housing of the Working Classes Act of 1890 and the Housing and Town Planning Act of 1909, a certain mechanism for dealing with the housing problem under normal conditions. At the beginning of the war, therefore, England possessed in this respect certain powers and authorities for which we have no parallel. In a certain sense, surely as far as public opinion was concerned, the additional authority created by the Defence of the Realm Act was but an extension of already existing powers. The program of social legislation extending over a considerable period prior to the war was a very important factor in giving direction to the work of adequate industrial preparation.

In discussing the subject of housing, the Englishman thinks in terms of 'Local Authority' and 'Local Government Board,' and to omit these two bodies from consideration in any program of housing is to him like suggesting the building of a house without a foundation; for we must not forget that prior to the war these two bodies were lodged the power to provide adequate housing. They were not bodies acting with police powers alone, as is the case with our departments: they could act also in the initiative. It is therefore quite impossible to translate the terms and conditions under which the housing of munition workers has been accomplished in England into terms which would have anything like a similar meaning in the United States. It is true that, prior to the war, by far the greater proportion, in fact most of the housing had been provided, as in America, by private enterprise—speculative building—and to a lesser extent by industrial capital; but there was always in the background the Local Authority and the Local Government Board with its authority to loan money and initiate where private enterprise failed.

The Failure of Existing Machinery

At the outbreak of the war it was but natural that the Government should first look to the already existing mechanism for the necessary supply of housing accommodation to meet the demands of the rapidly expanding private plants. Efforts were made along this line, but it was soon discovered that it was quite impossible to thrust this burden upon private enterprise, and that, owing to the precarious nature of the investment, nothing was to be had from the speculative builders. Prices were mounting rapidly; labor was scarce; and materials were in demand by enterprises conducted by the Government. In addition to this, Local Authorities were not fully equipped to deal with the problems, for they were far greater in magnitude than had heretofore been conceived.

Even when the Local Authority was ready to assume the responsibility—and the cases were few where it did—the nature of the enterprise was such, and the cost so high, that the Government had no alternative but to give a subsidy, which, in the majority of cases, amounted to 25 per cent of the investment. With the constantly advancing prices there followed a series of bargains between the Government and private enterprises or Local Authority, as the case may be. A great variety of arrangements was made between the Government and the Local Authorities, both as regards subsidy and the disposition of the property after the war. Even today, the exact basis of transfer has not been standardized. In some cases the Government advanced the total cost of the operation, with the agreement that the entire cost become an obligation of the Local Authority, and that at the close of the war, or within a certain specified time thereafter, the Government would write off a part of the obligation, and thereby reduce the same to an amount which would equal the value were the buildings to be erected at that time. The general policy has been to make such loans mature in forty years.

The details of such operations as outlined above are necessarily complex; yet the principle involved is simple and workable under normal conditions. The idea or purpose in such an arrangement is obvious. If the activity of a Local Authority is involved, and if the financial arrangement is such as will not produce an abnormal increase in rates, or place the Local Authority in an embarrassing financial position, a stimulation of local interest is sure to follow.

The British Government Obliged to Assume the Task

At the outset of the war, it was through the above roughly outlined process that the Government sought to provide the vast amount of industrial housing required. To a certain limited extent this method is being carried on now; but the bulk of housing—all of that in connection with the larger Government-owned plants—is now being produced by Government funds and by governmental machinery. Where the requirements for housing were small, Local Authority was called upon; but wherever the operation was of considerable magnitude, or where conditions were such as to not warrant the erection of permanent structures, the State assumed the initiative and bore the entire cost.

Translating this last statement into equivalent terms related to our political organization, we have this: After three years of experience the British Government has found that the only method by which adequate housing can be provided to meet the incalculable expansion of war industry is to provide all of the funds and initiate the entire enterprise.

I have not, as yet, seen the various housing schemes in operation, but I have examined the details of practically
FROM OUR SPECIAL CORRESPONDENT IN ENGLAND

all that has been done, and I do not hesitate to state that by no other conceivable technique could the remarkable result have been accomplished. Surely, if the result could not have been accomplished in England under the most favorable conditions, what can we hope for in America where the only means of accomplishment is through private enterprise, working under the handicap of excessive costs and with capital being absorbed in other more profitable ways?

The Colossal Character of the Work

Seen in total, as I see this from within the Ministry of Munitions, the undertaking assumes the most colossal proportions—and I grow impatient to actually see this work undertaken in the United States. It represents nothing less than an epoch-making step, not alone from the angle of what it means in housing and in town planning, but in the broader field of social progress.

It is difficult to grasp the magnitude of this undertaking, and it is harder still to realize that all this has been accomplished during a time of stress when the people of England are waging their greatest war.

Hackneyed as is the phrase 'epoch-making,' I use the term advisedly, for it has been my great privilege to have had a glimpse down the vistas thus opened to the future, and to have seen something of the broad outlines of the plans which are surely crystallizing. Writing of this accomplishment here in London, filled with the spirit which this war has brought forth, vaguely sensing the accumulating momentum of social and industrial reform—it is not in the spirit of emulation that I say we must not do less, but rather that I feel, with all of our efforts expended, we shall then fall short of doing our full share.

Memorandum Relating to a Survey of Housing Needs

In discussing the subject of how best to survey the situation as regards the probable needs for housing accommodation which are bound to result from rapid industrial expansion accompanying modern war, and also the formulation of plans for providing for the needs thus arising, emphasis was repeatedly laid upon the inherent difficulties—the impossibility—of forecasting with any degree of accuracy the location of the greatest needs, the total number of workers to be involved, and the extent to which women would be employed in various phases of fabrication.

Experience indicates that these are all variable factors which three years of experience and trial have not eliminated. The program is constantly changing as the exigencies of the time dictate: the employment of women is being constantly extended to new fields of fabrication, with the result that original calculations are constantly upset. The essential elements, therefore, to possess are: first, a central body or authority having powers to initiate and execute the details of this constantly varying program with the utmost rapidity and without the hampering conditions surrounding cooperation with many and sundry departments of the Government, and also, of equal importance, a mobile reservoir of materials and labor which can be put into immediate use.

London, October 11, 1917.

III. ENGLISH ADMINISTRATION

One cannot fail to be impressed with the fact that among those into whose hands has been given the execution of the various governmental housing schemes, there are few indeed who do not appear fully qualified to perform the service. One and all seem to have a broad grasp of both the social and the economic problems with which they have to deal, and, what is more, they understand quite thoroughly the genuine technique of town building and planning. This knowledge is not academic but is of the sort gained primarily through experience and a keen interest in the question. For the moment, I am not dealing with these from the point of view of the State or local authority, or copartnership enterprise; I am simply recording the impression that the State or municipal machinery under present conditions in England commands a high degree of ability, and, in consequence, is producing most creditable results.

Private and copartnership building enterprise failed in the war because of economic conditions, but we must recognize that the garden city movement and the copartnership idea, during the several years of struggle and experience in England prior to the war, created a background of public opinion and developed much of the technique which made possible the program and its accomplishment during the war. This is a fact of tremendous importance for us to grasp; one may safely infer that without that background and the technique and power coincidently set up, England, today, in all probability would be building temporary houses or tenements to become, after the war, a barren waste of shacks and slums of the worst sort. Thus, the war has created another tradition which will tremendously raise the standard of workmen's houses and the town-planning procedure involved, for all time. The garden city is to be not a dream but a reality, and in England, restricted as it is in area, the slum and the tenement are to go!

This is a prophecy which well may take years for realization, but if I judge rightly of the trend of public opinion, as expressed in many and various ways, of the widespread agitation for a saner and more wholesome life for all, and of the nature and scope of legislative and educational programs, it would be obstinate pessimism to assume that achievement will not come to pass.

How Shall the United States Meet the Test?

Can we in the United States inaugurate a similar program? This I repeatedly ask myself. For the moment, looking back at our country with its super-individualistic theories of government, our distrust of governmental mechanism, our utter misinterpretation of the real economic norm by which accomplishment should be measured, and the indifference of our Government, federal, state or municipal, to the fundamental values surrounding the question, I am fearful of the future. Must we forever be content with a legislative program which limits its field of activity, in relation to the houses where
wage-earners live, to the exercise of police powers only? Must we continue to assume that progress will be accomplished by restrictions? Effort confined to this narrow conception of government is doomed to failure. By restriction and districting we have made attempts to distribute our population here and there; by technical building laws we attempt to provide proper houses and well-arranged cities. But England has long since learned that elements of this sort have a negative as well as a positive value. They work to retard as well as to advance. England has also learned by experience that wealth is not to be measured in pounds, shillings, and pence, but in the physical and social status of all of her people. If intensive individualism has brought about a division of wealth which makes it impossible for the humblest worker to maintain himself to the economic and social advantage of the nation, then it is the duty of the State to readjust the distribution in such a manner that this absolutely essential element to the whole well-being of the nation will be maintained at maximum value.

The war offered a lesson in economics to England, and she has taken the lesson to heart. Economic factors so grouped themselves shortly after the war began that a large proportion of her workers lacked homes (this was due to the cessation and increased cost of building). There was but one thing for the State to do—provide homes! That the State did at a loss in money if reckoned by the usual methods of accounting—whereas it was really a simple and highly beneficial redistribution of the wealth or resources of the nation; that was all. I admit the socialistic slant in such a statement, but I hold, as I have long held—and the idea has been demonstrated clearly to me over here—that the basic idea involved in any program of raising the standard of living conditions or of applying the principles of town planning must be a recognition by the State of the fact that the problem is primarily a problem because modern industrialism has created false and abnormal values; and that in consequence any real serious effort to restore normal values must in some manner include some readjustments of wealth. By England's program of home-building and of town-planning there has been not only a readjustment in this direction, but a permanence of value has been given to that readjustment not possible by the process of raising wages.

FREDERICK L. ACKERMAN.
Edinburgh, October 29, 1917.

Letters from an American Architectural Student in France

THROUGH the kindness of Mrs. Austin M. Purves, the Journal is permitted to publish the letters of her son, Mr. Edmund Randolph Purves, now in France with the American Ambulance Corps. Mr. Purves was a student at the University of Pennsylvania and went abroad in April of the present year. Many letters of this nature have appeared in other publications, but we believe that the readers of the Journal will appreciate these narratives of the experiences, impressions, and observations of a young member of the architectural profession, who, like thousands of his confrères in England, France, and our own country, have laid down their chosen pursuit and given their services to the cause of the Allied forces. The task of editing these messages from a son to his mother has been one of rare pleasure, for the letters naturally contain much that is of necessity eliminated in their publication. In renewing our expression of appreciation for the kind opportunity that has been conferred upon the Journal, we ask the indulgence of our readers for the sincere effort we have made to keep the letters, as nearly as possible, as intimate as they are in the original.—The Editor.

On Board, April 22, 1917

... There is not much to do on board but play bridge. The ship carries no lights and the deck at night is pitch dark. The lifeboats are carefully inspected and the davits unlocked; the guns are in good working order. The course is not published, so that nobody but the captain knows where we are. ... We have seen no other ships, and we are, to all purposes, "alone on a great wide sea," yet no one knows but that, perhaps, quite near, death is awaiting us in a rather dreadful form. I used to think, after reading those inspiring but misguided sea tales, that to be shipwrecked and picked up in a lifeboat was not only interesting and exciting, but also healthful. I have talked to a fellow who was on the ship that picked up the survivors of an English liner. In one boat there were seven dead from exposure, and the rest, but three, had gone mad and tried to kill their rescuers.

Last night the nervous tension on board reached a maximum, due to the fact that we were nearing land, and also because they have been making more careful preparation for the speedy evacuation of the ship. The lifeboats have been swung out, rope ladders placed along the deck at intervals, and powerful lights have been put up at important places, immediately to be turned on in case of need. It was the night in which most people seemed to have returned to the state of a childish terror of the dark. They seemed to think that the end had come, for they scrambled down to their cabins, put on coats, sweaters, and lifebelts, brought blankets and slept conveniently near the lifeboats. I noticed that the Frenchmen on board (there are a great many) did not do this, so a number of us in the Ambulance decided that the best place was a comfortable bed in the cabin. We reduced our preparations to getting out our passports and taking the lifebelts down from the racks over the beds. After sitting up and talking till midnight, we turned in and had a good night's sleep in warm beds and in negligé.

The Ambulance men (about 60) are in the main a fine bunch, not much of the ne'er-do-well type in evidence; mostly athletic fellows with a common purpose to serve France and the United States to the best of their ability. They represent all degrees of intelligence, from the Middle Western farmer's son who spent a good hour the other evening with a bottle tied to a string, trying to catch...
LETTERS FROM AN AMERICAN ARCHITECTURAL STUDENT

phosphorus, to the New Yorker who lies back and affects to be bored with the whole procedure. I get along famously with my cabin mates, two brothers from Brookline, one in Technology, the other in Harvard.

I met Comte de ——— the first night on board. He was looking for me and I, having found him out, went and introduced myself to him. He is most delightful, about fifty years old, but thin and wiry, with a little moustache, getting gray. He is the kind of Frenchman I have always wanted to meet, ever courteous and pleasant, and seems just as glad to talk to the common soldiers, of whom there are a great many on board, as to the nobility, which is also well represented. I talk to him in my execrable French as much as I can, but I am afraid we have to resort to English too often. His son has just been decorated, and he feels justly proud, as French medals are a little more rare than Iron Crosses.

At our table there are a number of French and Belgian officers, all exceedingly nice and kindly; they do their best to teach us French, yet I must say they probably find the task difficult. One of them, Dr. ———, a cavalryman of the Belgian army, who was in the siege of Antwerp, is very pleasant and was very glad to talk to one who knows something of his own land. He talks often about the beauty that was Belgium’s and the courage of that little country. On the other side of him sits the Comte ———, a young Belgian whose father was killed in the war, and who himself spent a frightful winter in the trenches on the Yser, with food and without ammunition. He is very quiet, and one would never dream he was of the nobility, at least not of the nobility that plays so prominent a part in society novels.

April 28

The voyage ended beautifully and on even keel, though for a time it appeared somewhat dubious. The night of the concert they had a lottery, and the next morning there was a second concert, during which an elderly Frenchman recited some original verses, in French, about the grand union of France and the United States. It was quite good but the poor man got so excited and was so overcome that he came near to breaking down, the last verse being practically sobbed out in the lulls of the thunderous applause with which it was greeted.

That night we whiled away the weary hours in a 6 by 10 cabin talking and joking, when someone came down and said there were flashes on the horizon. We then imagined that they must have lighthouses on the land, and that we were off the Spanish coast. Later we found that there had been an engagement of some sort in the vicinity and that we were considerably north of Spain. However, a trifle exciting, for we were running with all lights extinguished, even running lights, but there was a bright moon which lighted everything quite distinctly so that we furnished a good target for any meandering U-boat. Thank Heaven, there were none, and the next morning found us safely anchored at the mouth of the Gironde, waiting for a favorable tide, which came at 2 o’clock in the afternoon.

The mouth of the river contained lots of mine trawlers and cargo ships, all painted battleship-gray. The country roundabout was flat but very interesting, a welcome sight, believe me. In the morning, during the wait, the French officers on board gave us a rousing reception and welcome there with speeches by Capt. ——— in French and the Comte de ——— in English; there were cheers, and, as a finale, the “Star Spangled Banner,” the “Marseillaise” and the “Brabançonne” were lustily sung. We finally started up the river, which becomes more and more beautiful as it nears Bordeaux. I can readily say that that voyage was one of the most beautiful trips I have ever made in my life. The sun went down gloriously after a perfect day, leaving that wonderful, wonderful twilight. The channel goes very near the shore, so that practically we brushed the trees that border the river. We glided along quietly, uncannily close to old farmhouses, chateaux, vineyards, woods, and towns, scrupulously clean, clustering about some old Romanesque church. It was like coming home again. I have about decided to take a crack at those Beaux-Arts examinations, this old country is good enough for me, the way things look now, although this is only the beginning, and I really know nothing about circumstances or the future. I think we had all better come here and live. You may have a hard time persuading me to come home again.

At suppertime I scarcely ate, but sat watching the river through the port holes, like a continuous cycle of circular “Corots” or “Daubignys.” Finally, I could stand it no longer, but rushed up on deck. As I was about to step out of the door, there was a slight jar, and a bell suddenly and quietly but firmly planted herself on a mud-bar on which we resided until the friendly tide lifted us off again. By that time (about an hour later) it was quite dark, and we continued our way, arriving in Bordeaux at 10 P.M., where we saw the first real signs of war. Quite a crowd met the boat, principally consisting of women and children. (The absence of men is very noticeable.) The gangplank was no sooner lowered than a squad of soldiers, bayonets fixed, marched on board to guard the ship. We were told by the Ambulance man who came to meet us that there were no rooms at all to be had in the town, and that we should spend the night on the boat.

Billy, his two cabin mates, and myself, decided that we had spent as many nights on that boat as we cared to, and also that we would take a chance on getting accommodations. It was then about 10 o’clock, 9 o’clock really, as the “daylight-saving” scheme of setting the clocks ahead one hour is now practised here. (It is an excellent scheme and would greatly benefit the U. S. A. in summer when the days commence early.) So we went on shore and looked for a taxi; there were none. We then looked for a fiacre; there were none to be had, all “complet.” Finally we heard some old vehicle come rattling along the quay and ran along to secure it first. It turned out to be a hack which must have been in its prime during the war of 1870, and belonging to the “Chemin de fer d’État.” We tried to make its driver (also a relic) take us to the Hotel Terminus, but he insisted on the Hotel de France; we did not argue the point but climbed in, thankful to be on land. He finally drove up to that handsome hotel where we found rooms—good rooms with hot and cold running water and real beds and everything. It was “ambrosia.” The hotel turned out to be the best in Bordeaux.

The morning in Bordeaux was very interesting. Women car-conductors, motor-women, women everywhere in
men's places. I took a stroll about the town and passed a military hospital. I could not resist the temptation to look in. There were many convalescents wandering about or lying in the sun, all quite cheerful. I passed a smithy where they were busily engaged on munitions. One sees many wounded, blind men, legless men, armless men, men with their faces covered, but no one seems discouraged, and nothing would induce them to part with their uniforms, and many wear medals.

The train left for Paris at 11.05 A.M. Our military passes entitled us to third class, but every one paid the difference and rode second. Nine hours in third, and very third at that, did not appeal to me; moreover, second entitled one to eat in the \textit{wagon-restaurant,} which I did. It was good and reasonable. The ride from Bordeaux to Paris is absolutely wonderful, right through Poitiers and the châteaux country, Tours, Amboise, Chaumont and Blois. Every station contains a Red Cross department, and there are nurses and wounded everywhere. I talked (in French) to a Zouave for quite a while. He had two bad head wounds and lost a leg, but he had the "Croix de Guerre" and the "Medaille Militaire," which seemed to console him considerably. They patched him up wonderfully well. One sees soldiers, soldiers, everywhere.

We passed several large prison camps—long wooden sheds with a slight fence around them. The prisoners evidently do not want to escape. We saw many of them working on the railroads. They appeared quite content with their lot, healthy and clean (except their uniforms, which were in rags). They were principally Austrians and Bulgars—the French do not take many German prisoners, for good reason.

At that little junction above Orleans, Les Aubrais (as you remember), we stopped for a while. On the next track was a carload of real live German prisoners. They must have been officers, for their uniforms were quite good-looking and neat. They seemed exceedingly healthy, contented, and cheerful. (I think they had been Prisoners a long time.) We climbed out of our carriage to have a better look at them and flaunted American flags in their faces. They laughed at this but did not say anything, just grinned behind their German pipes, which they never removed from their mouths. Before leaving, someone in the crowd gave them some chocolate, which they thanked him courteously. Their French guards seemed to be treating them pretty decently, far better, no doubt, than they in any way deserved. On the way we saw a large Aviation School, truly a wonderful sight, like a huge beehive. There must have been at least twenty machines up in the air at the same time.

We finally pulled into Paris at 9 o'clock and were driven in ambulances to our quarters. They are not palatial, but are quite good—about what I expected. I am not living in a hotel, but in a building. I have a room, not in a hotel, but in an annex about four blocks away on Rue Lekain. I suppose I will be here about three weeks or more.

Paris is so interesting; just to watch the people on the streets is very absorbing. One sees every kind of uniform (except German)—French, British, Russian, Canadian, Belgian, Moroccan, Anzac, and even, think Heaven, I saw a U.S. Captain today in uniform. There seem to be a good many Russian officers quartered near us.

The women are a sad sight; really none of them are not in mourning, except those of that large mob who ply their trade so openly now. There are many shops for mourning clothes and artificial limbs—quite necessary articles these days. I saw a party of blind officers being led along the boulevards this morning; it was pathetic. There are many "poilus" back on leave, with their helmets and ragged, buttonless uniforms and shoes whose original color is not discernible—far from the conception of the soldiers of a victorious army.

The Louvre is closed. About the most popular place now is the Invalides, where they have all the latest German trophies—aéroplanes and fragments of Zeppelins, trench turrets, mortars and everything.

Somewhere in France, May 8

Twenty-four hours ago I was calmly sitting in Paris, and now here I am in a blasted village, quartered in a shelled house with a peculiar odor in the air (somewhat a cross between a morgue and a manure heap). My bed is beside a shell-hole, and I am in imminent danger of falling into it.

Really, I hated to leave Paris. I could willingly have stayed for two more weeks (as I had expected to). It is the most wonderful city in the world, and the people in it the finest I have ever met. But alas, I have been caught napping. You see, I had expected to stay in Paris at least three weeks, and until I got my uniform, I hated to go about much. To be in Paris without a uniform is to be somewhat of a fish out of water. Paris, in wartime, is a wonderful place. After I was fully clothed in all my regalia, I had to work from 8 A.M. to 6 P.M. on a delivery truck, running errands around Paris—very interesting work. I was to have been laid off in a day or so, and then I would have had all the time in the world to present my letters. When lo! and behold, yesterday noon I got my orders to be ready by 8 A.M. (this morning) to go immediately to the front, and so here I am.

I was assigned to an old Section (Section 4) which is attached to the crack division of the French Army and will be right in the thick of it. I came by train, which is much better than going in an ambulance convoy. It was a beautiful, beautiful ride and intensely interesting, past army posts and aviation centers. It becomes quite exciting as one nears the front. Soldiers, soldiers everywhere.

This little hamlet where we are staying is pretty well Knocked up. Over the hills the guns are booming in a nightly "strafe," and everywhere is that peculiar sickening odor of war. Tomorrow, I believe, we move into real dugouts. I have now a tin hat and a gas-mask and make quite an imposing figure.

There is a large base hospital here which I went through tonight. It was a cheerful place. The "poilus" called out "vive l'Amérique" as we went past their beds. I did not hear a single groan in the whole place.

Evening, May 9, Sorting Hospital

The excitement has come sooner than I thought it would. For three hours I sat in a dugout today while 8-inch shells burst within 100 yards. But I will write about that later when I am in some quiet spot, for they are now shelling this village with 3-inch shells, and I can talk about Paris easier.
LETTERS FROM AN AMERICAN ARCHITECTURAL STUDENT

Morning, May 10

I had to stop this letter last evening to come out here to the lines and wait for the "Blessés." It is now 9 A.M. and I have not taken off my clothes since yesterday, nor had any breakfast. One eats and sleeps when one can. I am going to write you about my first two days pretty soon. They have been intensely interesting, dangerous, and exciting, as I almost got a place in the casualty column. There is never a word of complaint. "C'est la guerre." It is truly a wonderful privilege to be able to come into contact with such people, where they are striving toward the same goal, and not each one seeing how much he can get out of the other one. And it is a country where little faith is pinned on silyer speeches. It is action and deeds that alone count here. The uniforms are not spick and span, the men don't bustle about in the old-fashioned military way. There is only one ambition here—to do your job well and finish it. There are no parades, martial music, glittering equipment. The French are essentially fighters and workers, not clothes-horses. Everyone is candidly sick of the war, but they realize that it cannot stop yet. It would be wicked beyond all thought to give in now. Yet one cannot feel sorry for the French, and pity them. It would be insulting them to try to console them.

I have met some wonderful specimens of manhood in the few days I have been on this job. One, especially, will always remain fixed in my mind—a young lieutenant whom we brought in with his leg shot off. He was slight, and probably could not have passed the U. S. Army examinations; but there are mighty few men who have his courage. He was pretty badly off himself, but on seeing one of his own men in the ambulance, he was as careful of that man and as anxious about him (although the soldier's wound was the slighter) as if he had been his own son. When an army has men like that in it, it cannot be conquered.

I have been under shell-fire, both with shrapnel and high explosive aëroplane raids, have lived in dugouts, slept right in the trenches, and have seen sights which I hope I will never see again as long as I live. In fact, the only thing I have missed is a gas-attack; but we expect that all of the time, and hang onto our gas-masks as if they were made of spun gold and set with diamonds. My account, however, will have to be brief.

May 12

Last Sunday I had a wonderful time. Comte B-- took me out to spend the day at his brother's château at M-----, a beautiful spot. We took the train for about twenty miles outside of Paris and got off at S-- where we were met and driven through the quaint old French town (in which was quartered a regiment of Ammonites) to the château.

The château itself is a splendid example of the period of Louis XIII and the beginning of Louis XIV. The Comte's brother was not there but his sister-in-law was. She is an American and exceedingly nice, and is going to send me a watermelon when they get ripe. The war has, as everywhere, left its mark on the place. The Comtesse and her three children, two girls and a boy, live in one corner of the house. The rest is closed; you see there are no servants to be had. She has only one for that big old place, and that one rather incompetent. Really, these women are remarkable, for she seems to run the town, too, while her husband is away at the front. After a delicious lunch we walked around the Park, which was planted, right up to the walls of the château, with wheat and potatoes. His automobiles are commandeered, also any good horses. I got lots of first-hand information about the German atrocities, French unpreparedness, and the filthiness of the Germans—really indescribable. You can believe all you hear, and even use imagination, and you will come pretty near to the truth.

France, May 14

I have a day off today, thank Heaven, for I have never worked so hard in my life. The working-day here at the front is twenty-four hours long—1 P.M. to 1 P.M. next day, and then a rest. We leave quarters at 1 o'clock, drive out to the posts and carry wounded from there back to the hospital until 1 o'clock the next day, when we are relieved. Then "home," a bath, if one is fortunate, supper and bed, and one sleeps well in spite of all the guns.

It is beautiful, as I sit here on a little hill, with a slight breeze in the shade, looking across the valley at the German trenches, and what is more pleasing still, seeing high explosives from the French guns dropping into them. 

This may sound blood-thirsty and horrid to you, but then you see I have seen what the Germans have done, and are still doing, and there is mighty little mercy left in me as far as they are concerned. One does not realize over there in America what war is—not in the slightest.

Over here, where there are no money, no comforts, homes desecrated, men dying by the score, men hideously maimed, there is never a word of complaint. "C'est la guerre." It is truly a wonderful privilege to be able to come into contact with such people, where they are striving toward the same goal, and not each one seeing how much he can get out of the other one. And it is a country where little faith is pinned on silyer speeches. It is action and deeds that alone count here. The uniforms are not spick and span, the men don't bustle about in the old-fashioned military way. There is only one ambition here—to do your job well and finish it. There are no parades, martial music, glittering equipment. The French are essentially fighters and workers, not clothes-horses. Everyone is candidly sick of the war, but they realize that it cannot stop yet. It would be wicked beyond all thought to give in now. Yet one cannot feel sorry for the French, and pity them. It would be insulting them to try to console them.

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May 17

After a beautiful train-ride through country, now famous, we came to a large military base. These towns are very interesting—soldiers, convoys, big guns going up to the front, and burst ones coming back. From there we rode some 10 miles in automobiles to where the Section (S.S.U.4) was "en repos." This was a little town nestled in a valley in rolling country. We arrived about evening. It was wonderfully quiet, the only signs of war being the ruined houses and the ever-present aëroplanes. Toward sundown, however, the firing began, a continuous thundering over the hills until the walls seemed to shake. I felt somewhat thrilled—a whole lot more than I do now. Really this war makes one unbelievably blasé in short time. I spent the night in a house all blown to pieces. There was a Scotch Red Cross section quartered there also, mostly made up of men who had been either rejected or unable to fight, owing to wounds.
Early the next morning we broke camp and moved to a village near the lines, to enter on active service. It is beautiful here, perched on the side of a low hill, while across a wide valley on the top of the opposite hill are the enemy positions. If any place every looked like Hell, that place does—no trees, no grass, no green, nothing but shell-holes, smoke, dust, and noise, while far above are the German observation balloons, with never-closing eyes. We are in a rather bad position, for the Germans can see every move we make, and generally let one know it by a shell or two. We are up in the loft of a house—very airy and well ventilated, in fact, almost too well ventilated.

I was sent right out as orderly at 1 o'clock. An orderly job is rather hard work. Several cars go out from the town to a point near the lines where they can be well hidden, and then one car leaves them at that point and goes further on to the “boyau,” or communication trench, where they bring the wounded to the ambulance. That car drives all the way back to the hospital, and the next car moves up. The orderly never goes to the hospital, but rides back and forth between the “boyau” and the place where the cars are stationed. It is rather a nerve-racking job, as the orderly is continually under shell-fire. The cars usually operate on roads between the batteries and the trenches, and the Boches are continually trying to find the batteries with their fire. This fact makes things rather interesting at times.

On our first run, we went across the valley to a little town which has seen much fighting, some of it hand to hand, for the windows are sand-bagged and have loopholes, and the bullet-marks are numerous. The town must have been very pretty at one time—orchards, corners, little walls with red tile copings, and quite old—but now the lanes are perfect seas of mud, the walls broken in places, but, strange to say, the orchards were in full bloom, and yet, two years ago, this country around here was desolated.

It was in this town that I first came face to face with the horrors of war. We stopped at the inn, now used as a “poste d’évacuation,” to leave our blankets and food. In the little, low-ceiled room used for treating the wounded were five German prisoners, all badly shot up. One died before we left, and another, a mere boy, had a nasty wound in the groin. I felt sorry for him. He was so young, and, scared would be a lie. You get so scared that you are not in the groin. I felt sorry for him. He was so young, and, scared. It may be exciting to go charging up some hill, with shells bursting around you, carrying a gun in one hand and a grenade in the other, and bayonet submissively.

We left there and went on up to our post, about a mile farther on, where we found quartered a company of “travailleurs,” the men who do the carrying of the supplies to the trenches—all over forty-six years of age. They certainly were remarkable. They were housed in “abris” made of corrugated iron piping, put up in sections, forming a long tunnel just high enough to accommodate two tiers of bunks. This is well covered with earth, reinforced with logs, and covered with boughs to conceal them from the aeroplanes. There was an old battery place near there which I started out to visit, but I never got there, for at that moment the Germans commenced shelling a little house about 70 yards back of us, and so I had to beat a hasty retreat for the “abri.” They kept it up for two and a half hours, at the rate of two shells per minute. These were 8-inch shells and have a killing radius of 100 yards. One can hear them coming, like an express train. There is a terrific bang, and a few seconds later the fragments come whistling past, shooting out from the shell in a cone and traveling for about 100 yards in all directions. After the first shell, I started out to see what damage had been done, but two pieces of éclat hit the other side of the door with a sharp report, so I changed my mind and spent the rest of the time, until the firing was over, under cover.

The Hun is so methodical in his firing that it is safe to go about after one session is over. We went, therefore, and examined the damage. The car had been struck by “éclats,” and there was not enough left of the house to tie up in a handkerchief, while the road was so badly cut up that it had to be repaired before we could go back.

May 18

We had supper in the “poste d’évacuation,” and while we were eating, the Boches commenced shelling the place with 3-inch shells. They are mean—just a short whistle and a sharp report. The shells fell in a little court across the street, and as they did not change the range, we ate complacently. There is one distinct disadvantage about shell-fire, that is, one never hears the one coming which hits one, because the shells travel faster than the sound.

That night we went back to the “boyau” and started to sleep in the ambulance. One has to sleep with all one's clothes on because a call may come at any minute. The French batteries, which are numerous, started up a terrific firing about 12 M., so we spent the rest of the night in the “abri.” Fortunately, I was tired out, or I could never have slept in that place. It was hermetically sealed, and with a troop of rife old “brancardiers” it had an odor all its own. The next morning we went back to the billets after being relieved. My next trip was a great deal more exciting and harder work and to a different place.

On this occasion the cars were parked in a wood. The “boyau” was further along, about 2 miles; the road there was all in plain view of the German lines. Don’t think for a minute that I am any “bullet-biter” or dare-devil. That road was enough to make any one gray-haired. The Germans were combing out the woods, ahead, behind, and beside us, with shrapnel, and to say that I was not scared would be a lie. You get so scared that you are not scared. It may be exciting to go charging up some hill, with shells bursting around you, carrying a gun in one hand and a grenade in the other, and bayonet submissively.

But it is different, and somewhat of a test on the nerves, to go creeping cautiously, oh, terribly slowly, along a road with a carload of “graves blessés” when that road is being treated to intermittent shell-fire. I have seen the effect of shells, both on things animate and inanimate, and I have a great deal of respect for them.

Well, this all has no bearing on my first night in a trench. We got to the “boyau” all right, and, after several trips with “blessés,” we waited practically all night long before another one. That was quite a night. The going at night is not so bad, except for the heavy traffic, because so many stars shells are sent up from the trenches that the way is pretty well lighted. We lay down in the trench for a while, but could not sleep—too much noise; and soon the Boches commenced searching for the batteries behind us with high explosives, and we retired to a real dugout.
LETTERS FROM AN AMERICAN ARCHITECTURAL STUDENT

This one was a bird. I took a picture of it as it was very trenchy looking. There was no sleep in there. It was narrow, low and damp, and the bugs—"57" varieties—all colors, shapes, and sizes. It would keep an expert bug-hunter busy for weeks trying to classify them. I myself have never been very keen about insects, as you know. It was too low to sit up in, too narrow to lie across, so one rests lengthwise, with his head against his neighbor's feet.

Toward dawn the Germans planted a good shot in a trench magazine, and we saw some very pretty fireworks. It was the first German shot I have seen that found its mark. At 1:30 P.M. we were relieved, and then I went back and had a sponge-bath, and went to bed. That is an account of my first days; the others are mostly repetitions with variations. Of course, there is lots to tell, but then I forget some things for the moment; some can't be told now.

The Washington State Capitol Group

IN support of the active efforts made by the Washington State Chapter for adherence to the Capitol Group Plan, the following letter was addressed by President Mauran to Governor Lister:

HONORABLE ERNEST LISTER,
Governor of the State of Washington,
Olympia, Wash.

DEAR SIR: May I be pardoned for seeming to encroach upon the prerogatives of the people of the state of Washington to manage their own affairs as they see fit? My sole excuse is the fact that the American Institute of Architects is often looked to as the natural "Defenders of the Faith," when, with that vision which is inherent in the profession, through its training, they see any danger threatening the progress of the architectural development of our great country.

Two years ago the Capital of our country was threatened with a real eyesore in the form of an unsightly powerhouse in the midst of its carefully conceived park area, and the American Institute of Architects undertook a campaign to prevent such a desecration of our National Capital. Nothing could have been done, I assure you, were it not for the storm of adverse public opinion which broke upon Congress from the Atlantic to the Pacific. The reason for its effectiveness was that our campaign was based upon uncontroversial facts, which were unappreciated by the laity until vividly pictured by our professional body.

The state of Washington has before it a programme unique indeed in beauty, in financial adequacy, and in enduring merit, and I am writing to express the hope that you and all the people of your great state may see the vision of the future so admirably presented in the circular prepared by the Washington State Chapter of the American Institute of Architects in time to prevent any material departure from the noble plan of which you should be proud.

I beg you will accept this letter, not as an intrusion, but in the spirit of sincerity in which it is written.

Very truly yours,

JOHN LAWRENCE MAURAN, President.

President John Lawrence Mauran,
The Octagon, Washington, D. C.

My Dear Sir: I had, yesterday, the great pleasure of reading your letter addressed to Governor Ernest Lister on the question of maintaining the splendid group plan submitted in competition by Messrs. Wilder & White and subsequently developed and perfected by them after months of painstaking study and adopted by the State Government in 1912 after the most careful scrutiny and consideration as the State Capitol Group Plan for the State of Washington.

On behalf of the Chapter, and without official endorsement, on behalf of the unfortunately small minority of intelligent citizenship who view this matter as we do, I thank you. Your letter is so admirable and so in keeping with the high ideals that under your administration the Institute is reaching toward, that the facts should be printed in the Journal to the end that every Chapter may feel assured that the parent body is behind them in all their undertakings where in the spirit of altruism and from sincere feelings of true patriotism their efforts are directed toward obtaining the best expression in the Government buildings for the people. Yours very truly,

CHARLES H. BEBB
President Washington State Chapter A.I.A.

Report of the Public Buildings Commission

The report of this Commission, the date for which was originally fixed at January 1, 1917, and later extended to January 1, 1918, is awaited with keen interest by those who look forward to the presentation of a thorough and comprehensive analysis of the present congestion in administrative quarters in Washington, and who hope that the report will be accompanied by recommendations for the construction of the new buildings which are so badly needed now and for those which will be necessary properly to house the fast-growing activities of the Government. The report has involved a work of the most laborious character, much complicated by the war emergency which forced the rental, by the Government, of a great variety of buildings.
Institute Business

New Members Elected

Delbert K. Perry, New Britain, Conn. Connecticut Chapter.
Frederick C. Lebenbaum, Chicago, Ill. Illinois Chapter.
Clark C. Wright, Chicago, Ill. Illinois Chapter.

Nominations for Officers

To the Secretary of the Institute:

For the office of President of the American Institute of Architects, which is to become vacant at the close of the present year,* the undersigned members of the said Institute do hereby, in accordance with Article IX of the By-Laws, submit their petition for the nomination of Mr. Burt L. Fenner, of New York City.


*By vote of the last Convention, the present officers hold over until their successors are chosen at the next Convention, tentatively fixed for the spring of 1918.—Editor.

Obituary

Frederick C. Bonsack
Elected to the Institute as a Fellow in 1897
Died at St. Louis, Mo., September, 1917

Issac S. Taylor
Elected to the Institute in 1884; to Fellowship in 1889
Died at St. Louis, Mo., October 28, 1917

A. J. Bloor
Elected to the Institute as a Fellow in 1861
Secretary of the Institute 1874-77; 1881-83; 1887-89
Died at New York City, November 19, 1917

Book Reviews

The Dwelling Houses of Charleston, South Carolina. By Alice R. Huger Smith and D. E. Huger Smith. 128 illustrations from drawings by Alice R. Huger Smith. Photographs and Architectural drawings by Albert Simons. Limited Edition printed from type which has been distributed. 387 pages. 8vo. $6 net.

If this book serves to remind us of how Charleston has been swept by fire after fire, battered by war, and shaken by earthquake, it also serves to make us thankful for what has been spared. The text, while largely devoted to an account of the families whose houses are described, makes a vivid story of the life of the city, so strangely isolated by the Civil War. The illustrations—of houses, gates, doorways, winding stairways, paneled rooms, mantels, and rambling porches—many from drawings by Miss Smith, make an even more vivid picture of an epoch which still haunts us with its suggestive charm of a more leisurely existence. The book also contains a number of measured drawings, though on a small scale, and makes mention of numerous architectural quaintnesses of practice. It is especially interesting to have recalled to us at this moment the fact that, after the great fire of 1740, the General Assembly of South Carolina fixed the price of building materials and labor for a period of ten years!

Aside from the interest which this work will have for the architect, it seems safe to say that no future student of Charlestonian life can ignore the careful research embodied in its text.—B.

The New Tax on Professional Incomes

Mr. Frank E. Davidson, of Chicago, a member of the Institute, has made the following computation of the income-tax law as applied to professional incomes. No official interpretation seems to have been made, although those who appear to be expert in this matter do not agree with Mr. Davidson. Possibly, in the next number of the Journal, we shall be able to state the case definitely. Mr. Davidson's computation is as follows:

If an architect is a single man and has an income of $10,000, he must first pay 8 per cent on the difference between $6,000 and $10,000, or $320, but in computing his tax under the two regular individual income-tax provisions of the old law and thenew, this tax of $320 would be deducted from the income of $10,000, leaving $9,680, from which must be subtracted the exempted amount of $3,000 provided in the old law, on which he would pay the 2 per cent normal income tax. This tax of 2 per cent on $6,680 would amount to $133.60. Then, under the new income-tax law, the professional man with the $10,000 income would have to pay another 2 per cent on his income over the limit of $1,000 set in the new law, or 2 per cent on $8,000, which would amount to $172.60. His total income tax will, therefore, be $627.20. A corporation having a net income of $10,000 will be taxed as follows: Normal tax 2 per cent on $6,000, or $120, plus an additional 2 per cent on $8,000, as per the terms of the new revenue law; in addition to these direct taxes an additional surtax will be levied of 1 per cent on $2,500 and 2 per cent on $2,500, making the total income tax for the corporation equal to $355.

Thus, by the plain provisions of the income-tax laws, a corporation having an income of $10,000 must pay an income tax of 3.55 per cent, while a professional man or individual having identically the same income will be compelled to pay an income tax of 6.272 per cent.
Previous issues have dealt with all main structural features of a building; the last four issues have treated all forms of mechanical equipment; this issue treats of products and devices, the installation of which would occur at or about this stage of progress in the construction of a composite building. The wood trim and finish having been included in the wood issue, when lathing, plastering, metal windows, doors, trim, hardware, and other metal and plastic products, including roofing, have been treated herein, there will remain only the painting, finishing, and glazing to complete the structure. These, with miscellaneous items, will be covered in the December issue, or No. 12 Serial, which will also conclude the first year's review.

INDEX TO SUBJECTS TREATED IN THIS ISSUE
(For index of materials previously treated, see the General Index, page 581)

11A Societies, Associations, and Allied Interests.

11B Metals and Metal Products.

11C Bituminous Materials—Waterproofing and Damp-proofing.

11D Metal and Plastic Products.

11E Roof Coverings, also Sheet Metal Work, Cornices, Skylights, and Ventilators.

11F Floor Systems, Partitions, Furring, etc.

11G Cement, Lime, and Gypsum, in General.

11H Materials in General.

11J Ornamental and Decorative Work.

11K Plastic Materials and Products.

The publications and activities of the following bodies and of any of the governmental departments concerned with matters affecting metal, plastic and other products treated, will be mentioned wherever possible in connection with the main subject heading or subdivision under which they would naturally fall.

1. American Society of Civil Engineers
   Secretary: Charles Warren Hunt, 250 W. 57th Street, N. Y. City.

2. Illinois Society of Architects
   Secretary: John Reed Fugard, Harris Trust Building, Chicago, Ill.

3. Western Society of Engineers
   Secretary: Edgar S. Nethercut, 1735 Monadnock Block, Chicago.

4. Engineers' Society of Western Pennsylvania
   Secretary: Elmer K. Hill, 568 Union Arcade Bldg., Pittsburgh.

5. American Society of Municipal Improvements
   Secretary: Charles C. Brown, Wulfin Building, Indianapolis, Ind.

6. American Chemical Society
   Secretary: Charles L. Parsons, Box 503, Washington, D. C.

7. American Institute of Metals
   Secretary: W. M. Corse, 106 Morris Avenue, Buffalo, N. Y.

8. Architectural Iron and Bronze Manufacturers
   Secretary: W. A. Magson, 321 Madison Avenue, New York City.

9. National Association of Ornamental Iron and Bronze Manufacturers

10. National Association of Sheet Metal Contractors of the United States
    Secretary: Edwin L. Seabrook, 261 S. Fourth Street, Philadelphia.

11. National Association of Brass Manufacturers
    Chairman Standardization Committee: H. N. Gillette, Oliver Building, Pittsburgh, Pa.

12. National Association of Manufacturers of Approved Hollow Metal Window Frames and Sash
    Secretary: Thomas Shean, 2799 Fifth Avenue, Chicago, Ill.

13. American Hardware Manufacturers' Association
    Secretary: F. D. Mitchell, Woolworth Building, New York City.

14. National Retail Hardware Association
    Secretary: M. L. Corey Argo, Ind.

15. National Hardware Association of the United States
    Secretary: T. James Fernley, 505 Arch Street, Philadelphia, Pa.

16. Wood, Wire and Metal Lathers' International Union
    Secretary: Ralph Grandt, 410 Superior Building, Cleveland, Ohio.

17. Associated Tile Manufacturers
    Secretary: F. W. Walker, Beaver Falls, Pa.

18. Gypsum Industries Association
    1611 Harris Trust Building, Chicago, Ill.

19. National Association of Master Slag and Gravel Roofers

20. Asbestos Paper Manufacturers' Association

There is also record of:

21. American Electro-Chemical Society

22. American Institute of Chemical Engineers

23. Asphalt Publishing Bureau

24. Sand-Lime-Brick Association

25. International Union of Bricklayers, Masons and Plasterers

Other bodies, interested in the subjects now treated, have been mentioned under previous serial numbers, particularly under Nos. 1, 2, 3, and 4.
11B1 Metals in General

Considerations here do not include Structural Iron and Steel which were treated in Serial No. 1. Many of the publications listed there, however, are applicable here. See, also, Metal Products 11B7 and, also, Metal and Plastic Products, 11D.

For “Tests of Metals,” Watertown Arsenal, War Department, U.S.A., see 1B12.

(a) See “Proceedings of the A.S.T.M. (A9a) for reports of the following committees; and for papers presented before conventions:
(b) See “Review of Current Technical Literature” and Journal of the American Society of Mechanical Engineers (10A1).
(c) See index to “Engineering Articles of Interest,” and to papers and discussions, contained in each issue of the Proceedings of the American Society of Mechanical Engineers (11A1).
(d) An investigation has been concluded of the initial stresses, cause of failure, and properties of structural brasses, an account of which is given as a technical paper. See, also, below. A great deal of this work has been materially aided by the cooperation of brass manufacturers and of users of brass, such as the Navy Department, the New York Board of Water Supply, the City of Minneapolis, the Panama Canal Commission, and others. However, the results obtained will be serviceable in defining specifications for the use of structural brasses. (From Report of Bureau of Standards, 1916).
(g) See “General Metallurgy.” H. O. Hoffman. 999 pp. illus.
(i) See “The Coloring of Non-ferrous Metals and Alloys.”

11B2 Corrosion and Treatment of Metals

The references which follow are selected for consideration in connection with the proper use and care of metals quite independent of the composition and arrangement of the various sections and articles which are part of the Pocket Books, Handbooks and other publications of the Institute of Metals Engineers (11A1). See, also, “Corrosion of Steel” (1F8a).

In connection with sprinkler pipe, see five N.P.P.A. references listed under 4B14 above. See, also, “Corrosion of Pipes, Fittings, and Structural Work.”

(a) “Structure of Coating on Tinned Sheet Copper in Relation to a Specific Case of Corrosion,” P. D. Merica. Technologic Paper No. 59, Bureau of Standards. April 21, 1917. 18 pp. 5 cents.

See, also, “Proceedings of A.S.T.M. for the following:

(j) See “Proceedings” of the American Gas Institute (7A2a) for the following:

11B3 Protective Coatings

See the Reports of Committee D1, A.S.T.M., on “Protective Coatings for Structural Materials,” referred to in January issue (1F8) and subrubbing “Protective Coatings” (1F8), also “Manufacture of Oils and Pigments” (1F8).

(a) “Rustless Coatings; Corrosion and Electrolysis of Iron and Steel,” P. D. Merica. 435 pp. illus.
(b) “Iron Corrosion, Anti-fouling and Anti-corrosive Paints,” L. E. Andes. 85 pp. 65 illus. Translated from the German.
11B4 Electrolysis

See also, "Electrolysis" (6N).

11B5 Metal Products in General

Next to questions concerning the corrosion and preservation of metals and the determination of the most appropriate kinds for special uses and the protection and care of each, comes the matter of the thickness and weight of metal to be used for any particular product.

(a) The Engineer wishes to express the opinion that a most desirable table giving the use of metals to have constant access to would be a chart illustrating graphically and minutely the gauges for metals, the numbers for wires and other forms and sections of metal products. Such a publication, accompanied by descriptive data, would afford opportunity to visualize the material to be incorporated and provide conditions in estimating and a ready means of ascertaining compliance with specifications requirements that coarse of all those interested in adequate and proper installations. The words "gauge" or "gauge" apparently also need standardization.

(b) An interesting question is the possibility of such a chart will be found in the Manual of the American Railway Engineering Association (1A4) where, on page 305, appear cuts in section and elevation (shaded) showing the exact sizes of No. 1 to No. 20 gage steel wire by American Steel and Wire Company gauge with tables of weights and comparative sizes of all wire gauges.

(c) The U. S. Standard Gauge for Sheet and Plate Iron and Steel, 1893, Kent's Mechanical Engineers' Pocket Book, 1916, states: "There is in this country no uniform or standard gauge, and the same numbers in different gauges represent different thicknesses of sheets or plates. This has given rise to much misunderstanding and friction between employers and workmen and mistakes and frauds by dealers and consumers."

(d) "An Act of Congress in 1893 established the Standard Gauge for sheet iron and steel (which is given). It is based on the fact that a cubic foot of iron weighs 480 pounds."

(a) "A sheet of iron 1 foot square and 1 inch thick, weighs 40 pounds, or 400 ounces, and a ounce in weight should be 1/10 inch thick. The scale has been arranged so that each descriptive number represents a certain number of ounces in weight and an inch in thickness of an inch in thickness."

(e) The law enacts that on and after July 1, 1893, the new gauge shall be used for all pipes and pipe made of sheet and plate iron and steel; and that in its application a variation of 2 1/4 per cent either way may be allowed.

(f) "The Legalization of the standard sheet metal gauge of 1893 and its adoption by some manufacturers of sheet iron have only added to the existing confusion of gauges. The Joint Committee of the American Society of Mechanical Engineers and the American Railway Engineer's Association decided to recommend the use of the decimal gauge, that is, a gauge whose number for each thickness is the number of thousandths of an inch in that thickness, and also to recommend the abandonment and use of the various other gauges now in use, as tending to confusion and error."

(g) A notch gauge of oval form (shown in cut), has come into use as a standard form of the decimal gauge.

(h) "In 1904 the Westinghouse Electric and Mfg. Co. abandoned the use of gauge numbers in referring to wire, sheets, metal, etc." (Kidder's "Architects and Builders' Pocket Books.")

(i) "The Brown and Sharpes gauge (B. & S.) is commonly used for designating size of copper wires (see 124x) and for sheet copper and brass. The American Steel and Wire Company uses the old Washburn & Moen gauge for all their steel and iron wire and also for wire nails. The sectional areas for this gauge are given on page 1426. When placing orders for sheets and wire, it is always best to specify the weight per square or linear foot or the thickness or diameter in thousandths of an inch. The gauge for steel wire, used by the J. A. Roebling's Sons Co., is given on page 203, and the circular-mail gauge on page 1397."


11B6 Pipes, Conduits, Wires, and Drawn Products

Attention is directed to the last two paragraphs of the General Suggestions of the National Electrical Code (6C1), urging architects to make provision for the channelling or pocketing of buildings.

The final tests and inspection of all enclosable pipes, conduits, and other metal products before they are lathed and plastered should not be overlooked.

(a) As of much interest in connection with this Section, see "Corrosion and Treatment of Metals" (11B2).

(b) For Automatic Sprinkler Pipes, see, "Fittings, Contents, and Protection Equipment" (4F); also "Sprinklers and Fire Protection" (p8). For Gas Piping, see "Piping Buildings—Materials, Methods, and Cost" (1B).

(c) For Plumbing Pipes, see "Water Supply, Storage, Utilization and Incoming Pipes" (6D); "Plumbing Installations in General" (1G); "Outgoing Pipes, Sewage Disposal, and Public Health" (1L).

(d) For Pipes in Connection with Heating, see "Boilers and Heating in General," (10C); "Pipes, Valves, and Fittings" (1C).
11B7 Windows, Doors, and Metal Trim

(a) The following should be consulted before equipping building walls or partitions with windows or doors:

2. Underwriters' Laboratories "Specifications for Construction of Tin-Clad Fire-Doors and Shutters" (A3).

(b) This specification is likewise applicable to the installation of sheet-metal doors.
5. Also "Beltway Fires" (A374).
6. For Fire-Doors and Shutters, Frames for Fire-Doors and Shutters, Frames and Sash for Wired Glass, Fire-Window-Frames, see "List of Inspected Mechanical Appliances" of the Underwriters' Laboratories (A34).
7. For same, see also, "Approved Fire Protection Appliances" of the A.F.M.F.I. Co.'s (A374).
8. For Hardware for the above, see 11B11.

(d) For "Standards for Counterbalanced Elevator Doors," see Underwriters' Laboratories (A36).

(e) The Committee on Construction of the National Association of Manufacturers of Approved Hollow Metal Window-Frames and Sash has been working with a committee appointed by the Laboratories, and this joint committee has decided to test various constructions, some of which have passed through tests, apparently with great success; others are still to be put through. One thing which has already been definitely and officially accomplished is the abolition of a mullion which the Laboratories demanded should be placed between two units, if the opening was larger than 5 x 9 feet. The old style mullion was made of a 1-inch U-beam, surrounded by concrete and enclosed in sheet metal.

The new mullion now made, if non-bearing, is composed of two channel irons made of No. 16 gauge, which are tied together with a strip of No. 24 gauge galvanized iron. This permits the two channel irons to be set back to back and eliminates, not alone the expense of the old-style mullion, but also permits the distance from glass-line to glass-line, in this new mullion window, to be made the same as that of the various old styles. As in modern construction the glass area in a window opening is of the utmost consequence, this advantage is very great.—(Extract from a letter from Fred De Coning.)

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11B8 Mail Chutes

(a) The U. S. Post Office Department issues "Section 720, Postal Laws and Regulations" under an "Order No. 148 of the Postmaster General," dated Aug. 8, 1905, which describes the kinds of chutes in which mail chutes may be installed, the location therein of same, and the essential characteristics of construction.

(b) Copies of these regulations may also be obtained from the Cutler Mail Chute Co., which, in a recent circular letter, calls attention to a letter from the Post Office Department, stating that it will not order any mail chute which the Mail Chute Test Board is to be placed within fifty (50) feet of the main entrance of a building.

(c) See Industrial Section, p. xii, Cutler Mail Chute Company.

11B9 Laundry Chutes

(a) For reference to Glass Enamelled Steel Laundry Chutes, see 5H1 and Industrial Section, p. xxii, Fauclier Co.

11B10 Appliances, Fixtures, Fittings, and Devices

(a) For Electrical Appliances, see "Apparatus, Appliances and Installations in General" (B6); "Electric Elevators and Dumb Waiters" (B5); "Heating, Cooking and Other Appliances and Devices" (B6).

(b) For Gas Appliances, see "Gas Appliances in General" (B7); "Space-Heating by Gas" (B7); "Water-Heating by Gas" (B7); "Cooking and Hotel and Domestic Appliances" (B7).

(c) For Electric Switches and Wiring Devices, see Industrial or partition walls and partitions against fire, as recommended by the N.F.P.A. Edition of 1915 (A3).

(d) For Electric Elevators and Dumb Waiters, see "Electric Elevators and Dumb Waiters" (B6).

(e) For Gas Appliances, see "Gas Appliances in General" (B7); "Space-Heating by Gas" (B7); "Water-Heating by Gas" (B7); "Cooking and Hotel and Domestic Appliances" (B7).

(f) For Electric Switches and Wiring Devices, see "Electric Elevators and Dumb Waiters" (B6).

(g) For Gas Appliances, see "Gas Appliances in General" (B7); "Space-Heating by Gas" (B7); "Water-Heating by Gas" (B7); "Cooking and Hotel and Domestic Appliances" (B7).

(h) For Electric Switches and Wiring Devices, see "Electric Elevators and Dumb Waiters" (B6).

(i) For Gas Appliances, see "Gas Appliances in General" (B7); "Space-Heating by Gas" (B7); "Water-Heating by Gas" (B7); "Cooking and Hotel and Domestic Appliances" (B7).

(j) For Electric Switches and Wiring Devices, see "Electric Elevators and Dumb Waiters" (B6).

(k) For Gas Appliances, see "Gas Appliances in General" (B7); "Space-Heating by Gas" (B7); "Water-Heating by Gas" (B7); "Cooking and Hotel and Domestic Appliances" (B7).
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(a) For Hand Power Elevators and Dumb Waiters, see Industrial Section, p. xxxvii, Sedgwick Machine Works.

(b) For Fireplace Thieves and Dampers, see Industrial Section, p. xiv, Colonial Fireplace Co.

11B11 Hardware

(a) "The American Hardware Manufacturer" is the official organ of the American Hardware Manufacturers' Association (11A11). This Association, which recently accepted membership on the National Industrial Conference Board, has, through its officers and Executive Committee, inaugurated a significant movement in which architects and the prospective owners of buildings throughout the country may greatly aid. Started in May of this year, specifically for the purpose of conserving men and money in time of war, but destined, with that approach which will surely be forthcoming, to make for permanency and lead to standardization of purpose and procedure, the members have concurred in a Resolution to reduce the number of styles of hardware, to curtail the different kinds of finishes, and to eliminate all slow-selling items. This action has been commended by the Commercial Economy Board of the Council of National Defense which has said, "in practically every trade there have grown up non-essential services, some of them mere conveniences, and others hardly that, in time of peace they may be permissible; in time of war they are a serious waste and should be stopped . . . concerns should curtail excess variety of styles." Architecture in specifying and selecting hardware, are urged to take an important part in this desirable economic reform. The saving in the publication and examination of manufacturers' catalogues alone would be very considerable in money and in time, to say nothing of the vastly greater reduction in cost of manufacture and handling, in the wake of which other improvements would result.

The Structural Service Department may be counted upon to do its part in this direction and in others, such as establishing definitions of "right and left-hand" doors, and steps are already being taken.

(b) The Bureau of Standards, which recently accepted membership on the National Industrial Conference Board, is devoting attention to research, the analytical study of modern hardware problems, and the devising and recommendation of methods and standards for the application of hardware distribution and more efficient merchandising. The official organ of the Association is the National Hardware Bulletin, published monthly.

(c) "Details to Which Standard Hardware Can Be Applied" is a series of 27 plates, 8½ x 11, bound in cloth, drawn by F. M. Snyder, Architect, for twelve hardware manufacturers, by whom it has been distributed. It bears on the title page "As Chairman of the Committee on Materials and Methods of the A.I.A. I am glad to have this opportunity of expressing approval of this much-desired publication.—THOMAS NOLAN.

(d) The Navy Department issues specifications for various kinds of hardware, including:

1. Double-Acting Spring Butt Hinges (42H20a), illus.; Liquid Door Check (42C3a); Sash Cord (42C3a); and others, to which see Jan. 1916.


(g) See, Locks and Builders' Hardware, Henry M. Towne, 1117 pp.

(h) For hardware for fire-doors and shutters, automatic closers, door-checks, panic-bar latch release, hardware for fire-window-frames, fusible links, transom and transom operators, and other devices, see:"List of Inspected Mechanical Appliances," Underwriters' Laboratories.

(i) For reference, see also, "Approved Fire-protection Appliances" of the A.F. M.I. Co's (A743).

(j) For reference to self-releasing fire-exit latches, see: Gage and, also, Industrial Section, p. xi, Vonnegut Hardware Co.

(k) For reference to pull-eye and standardization data, see: Gage and, also, Industrial Section, p. xxi, The Columbian Hardware Co.


(m) The Bureau is frequently called upon to test the wearing quality of window-sash cord. To carry out this work, there has been in use for several years a special testing machine which was designed by the Bureau to simulate as far as possible the actual conditions of service. The results obtained in testing a variety of sash-cord prove that the wearing quality of the cord is, within wide limits, quite independent of its tensile strength, but is dependent in a remarkable fashion upon oils, greases, and other substances which are naturally present or are added by design.—(From Report of the Bureau of Standards, 1916.)

11B12 "Ornamental" Metal Work

(a) The Standardization Committee of the Architectural Iron and Bronze Manufacturers (11A8), Mr. F. S. Meyer, who for several months has been working on standard specifications, is working for the Government to standardize metal gauges of all kinds.

(b) The Standardization Committee of the National Association of Brass Manufacturers (11A11) will report, in December.


(d) "Architectural Wrought Iron, Ancient and Modern," W. W. Kent. A compilation from various sources of German, Swiss, Italian, French, English, and American ironwork, from medieval times to the present day. Illus.

(e) "A Handbook of Art Smithing," F. S. Meyer. For the use of practical smiths, designers of ironwork, technical and art schools, and architects. Illus.

(f) "Plain and Ornamental Forging," Ernst Schwarzkopf. 1916.


(h) Members of the art commissions of the cities of New York, Philadelphia, and Detroit, as well as certain art-bronze manufacturers, have urged the Bureau to take up the question of the standardization of art bronzes for outdoor statuary. This should include a determination of the most suitable chemical composition, the production of a desirable and stable patina, and methods of care and cleaning such statues. In the different cities of the country, statues oftentimes take on an unsightly appearance, largely caused by the contaminated atmosphere. It is believed a systematic study will go far toward improving this condition.—(From Report, Bureau of Standards, 1916.)


11B13 Lighting Fixtures

(a) Specifications for same will be found in "Mechanical Equipment of Federal Buildings" (6L12).

(b) For electric lighting fixtures, see "Illumination, Lighting Fixtures and Lamps" (6H).

(c) For gas lighting fixtures, see "Illumination—Fixtures, Equipment and Ignition" (7M).

(d) See, also, Report of Committee of the American Gas Institute on Piping Large Buildings for Gas (7A42), which contains an extended section on "Illumination" pp. 39-53.

11B14 Stairways, Fire-Escapes, Slipping Hazards

(a) For information on "Exit—Stairways and Fire-Escapes, Safety to Life, Slipping Hazards," see Sections 4E to 4E3.

(b) For Fire-Escapes and Safety Treads, see "List of Inspected Mechanical Appliances," Underwriters' Laboratories (J669), and "List of Appliances Inspected for Accident Hazard.


[Note.—Though this issue treats of Metal Products in General, the subject of Store Front Construction will be covered in Serial No. 12, on account of its relation to Plate Glass.]
Plastic Materials and Products

See also Metal and Plastic Products (11D1) for handbooks and other publications which treat of both together, and see various subdivisions of that heading wherein plastic products are mentioned in connection with metal products.

Cement, Lime, and Gypsum, in General

(a) See Proceedings, A.S.T.M. (1A4), for the following reports of committees:
   - "Concrete (A.S.T.M.: C-1); Lime (A.S.T.M.: C-7); Concrete and Concrete Aggregates (A.S.T.M.: C-9); Gypsum and Gypsum Products (A.S.T.M.: C-11)."

(b) See "Concrete, Mortars, Plasters, and Stucos," F. T. Hodgson, Architect. 100 pp., illus.
   - For further information on "Lime and Hydrated Lime for various purposes (chiefly mortars), see 2B to 2B10, and, also, Industrial Section, p. xvii, Hydrated Lime Bureau.
   - The plasticity and sand-carrying capacity of lime are properties of great importance commercially, yet their measurement has always been an extremely difficult matter. A method for making this measurement has finally been developed, and an instrument has been built for the purpose. A lime paste or mortar is molded into form and immediately subjected to compression. The load required to produce rupture and the amount of deformation before rupture are found to depend upon the plasticity of the material.—Report, Bureau of Standards, 1916.

(c) For Gypsum used in Building Construction, see references listed under 8B19.

(d) See reference to Annual Statement of U. S. Geological Survey pertaining to Gypsum, listed under 4K3.


(f) See, 1:1 to 1:8 for references to Cement and Concrete of structural significance, the following being given chiefly in connection with the consideration of such materials. The finishing of cement and other surfaces, as in "stucco," must be more fully treated under Lathing and Plastering, 11D6.

(g) For Cast Stone, see "Integral Waterproofing," a paper by Mr. Horn.
   - "Concrete Construction for Rural Communities," Roy A. French & Co.
   - "Building Stones and Clay Products," Heinrich Ries. A handbook for architects. 415 pp., illus.

(h) "Prevention of Dampness in Buildings," A. W. Keim. A paper by Mr. Horn.
   - "Swimming-Pools," (See 2J30.)

(i) "Tiles" serial designation 59T2, August 1, 1916.

   - "Concrete Construction for Rural Communities," Roy A. French & Co.
   - "Modern Methods of Waterproofing," Myron H. Lewis. Covers principles, methods and precautions. 44 pp., illus.


(m) "Concrete Construction for Rural Communities" by Roy A. French & Co.

(n) "A Bibliography of Clays and the Ceramic Arts" and other publications of the American Ceramic Society, Inc., see 3C1.

(o) "Tiles" serial designation 59T2, August 1, 1916.

(p) "Building Stones and Clay Products," Heinrich Ries. A handbook for architects. 415 pp., illus.


(r) For China Bathroom Accessories, see 8H1, and Industrial Section, p. xxiv, The Fairfacts Company, Inc.

Roofing Tile

(a) See some of the publications listed under Terra-Cotta, Hollow Tile and Brick (3D1); also literature of University of Illinois (1C35) for literature pertaining to roofing tile in preceding Section.

(b) See, also, Roof Coverings (11D5).

(c) In its recent report, the Committee on Allied Arts of the Philadelphia Chapter of the A.I.A. made the recommendation that the Institute's Committees on Allied Arts and Materials should exert an influence with the large factories to turn out a more interesting product.

Because of present conditions, arising from the state of war in which our country is involved, no conclusive work in the matter of conveying media—saturated felts and woven fabrics—has been accomplished, and before specifications covering these materials can be drawn up, the questionable part which they actually play in a finished waterproofing membrane must be definitely settled. The present unnatural state of the rag market is another controlling economic feature which at present militates against the preparation of specifications covering media.

(See, also, "Heat Transmission, Insulation, Coverings" (10N), which contains many publications of interest.


(2) "Asphalts: Their Sources and Utilization," T. Hugh Boorman. Contains addenda treating on general waterproof construction.


(5) See "Concrete Stone Manufacture," Harvey Whipple. 1915. 77 pp., illus.
11D Metal and Plastic Products

See Metals and Metal Products (11B); also Plastic Materials and Products (11C) for references to each of these separately. The intention is under this combined heading to refer to those publications which treat of both products equally and to those lean School of Correspondence where both metal and plastic products are under consideration at the same time.

Attention is directed to the offers made placing the facilities of their departments for investigation, research, and cooperative work at the disposal of architects and other citizens by the Bureau of Standards (1A2) and the Geological Survey (1A1).

The Government has published a very interesting report upon "Substitution of Other Materials for Wood," which forms a part of the investigation of the Federal Trade Commission and of the Forest Service into conditions within the lumber industry, and is now for the first time made available to the general public.

The report is illustrated with charts, showing the relative trend in prices of lumbar and other values for twenty-five years, ending 1915; also other charts showing (in part) the consumption of building brick, of iron and steel structural shapes, natural and Portland cement, of clay building materials, and of cut and wire nails. There is also a graphic study of building permits in twenty of the larger cities of the country. The increasing use of metal trim and metal furniture is graphically shown by another diagram. Copies of the report may be obtained for 15 cents from the Superintendent of Documents, Washington, D. C.—(From November News Letter, 1917, N.F.P.A.)

11D1 Materials in General


(c) For Slate Roofing, see 2K1 to 2K8, inclusive.

(d) See, also, "Report on Fire Tests of Materials" (1A9c), in which are taken up considerations in selecting roofing, classification of important materials, under which is discussed the properties and relative advantages which are developed to various metals and plastic products (2A16 and c), U. S. Geological Survey.

(1) A large number of manufactured products of various kinds referred to herein may be seen at Architects' Samples Corporation display rooms, Architects Bldg., 101 Park Avenue, N. Y. City.

(2) See the Sections, articles, descriptions pertaining to practically all metal and plastic products, including those covered by various headings and subdivisions in this issue, in:

"Tin Roofing Facts for Architects' Use" 1912.
Architects' Sample Corporation, 33rd Street, New York.
"Building Code Recommended by the N. B. F. U., 1915.
"Dwellings—A Code of Suggestions for the Construction and Fire-Protection (1A2d).
"Field Practice—Inspection Manual of the N. F. P. A. (1A2d)."
"The Metal Lath Handbook (1C1e).
"Asbestos Plaster—Plastic Lathing Material—32P14; Tarred Shingling Felts—33F14; Trinidad Asbestos Plaster Cement—31P14; and others, for index to which see 31A14.

Applications suggested by the Editor of the S.S.D.:

"Tin Roofing Facts for Architects' Use" 1912.
These specifications were compiled for the original Association then known (organized 1905) as the National Association of Master Sheet Metal Workers by a joint committee of tin roofers, representing all sections of the country, and manufacturers of tin roofing plate. They were adopted by the Association as standard in August, 1909, and have remained unchanged since. They have been widely referred to and are printed and distributed by certain manufacturers of tin roofing and recommended for use. They are comparatively brief and so worded that they may be incorporated into architects' specifications.

Application suggested by the Editor of the S.S.D.:

"Wherever tin roofing is shown, marked, indicated or specified it shall be tin plate of the thickness and gauge which, for differing portions of the roof, is covered by the specification given with respect to "flashings, flat roofs, allowable slopes and other features."

(3) For the application of sheet metal, see, especially, "Metal Work, Ducts, Chase Lathing" (10L), and "Metal Products in General" (11B).

(4) Wherever tin roofing is shown, marked, indicated or specified it shall be of (name the thickness and gauge of the material which, for differing portions of the roof, is covered by the specification) laid and painted in accordance with the Standard Specification for Tin Roofing, 1909, with any subsequent official amendments thereto. (This provision is added merely to make the application up to date, no matter when used.)

11D2 Roof Coverings—also Sheet Metal Work, Cornices, Skylights, and Ventilators

Before arranging for the placing of light-shafts, roof-openings, ventilators, cornices, etc., a study should be made of the latest report of the Committee on Roof Openings and Cornices in Proceedings N. F. P. A., with discussion which was printed at the Section on Skylights in the N. B. F. U. Building Code, 1914 (1A4d). The "Regulations" of the N. B. F. U. as recommended by the N. F. P. A. on Skylights (1A3e) should be obtained for reference.

(a) A most interesting symposium on the subject is the Section "Roofings" in the Manual of the American Railway Association (1A9a), in which are taken up considerations in selecting roofings, classification of important materials, under which is discussed the properties and relative advantages and economies of both product equally. Each is discussed and described, and built-up roofs, tile, brick, slate, asbestos shingles, cement tile, metallic roofings and ready roofing, with conclusions and recommendations given with respect to flashings, flat roofs, allowable slopes and other features.

(b) For Slate Roofing, see 2K1 to 2K8, inclusive.

(c) For Tile Roofing, see 11G1.

(d) For various kinds of roofing, see references under "Horizontal and Sloping Features" (4D).

(e) Skylights and Ventilators, see, also, "Natural Ventilation" (10G).

(f) For sheet metal work, see, especially, "Metal Work, Ducts, Chase Lathing" (10L), and "Metal Products in General" (11B).

(5) The National Association of Sheet Metal Contractors of the U.S. (1IA10) issues the following:

1. "Warm Air Heating and Sheet Metal Journal" (See 10D7.)

3. Circular entitled "Tin Roofing Facts for Architects' Use" states the application cost, more complete advantages and quality of tin roofing.

4. "Standard Specifications for Tin Roofing Work," 1909. These specifications were compiled for the original Association then known (organized 1905) as the National Association of Master Sheet Metal Workers by a joint committee of tin roofers, representing all sections of the country, and manufacturers of tin roofing plate. They were adopted by the Association as standard in August, 1909, and have remained unchanged since. They have been widely referred to and are printed and distributed by certain manufacturers of tin roofing and recommended for use. They are comparatively brief and so worded that they may be incorporated into architects' specifications.
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(6d) In reference to "Barrett Specifications" for roofs, and guarantee bond, see 4D1-1. Also, see Industrial Section, p. vii.

(6e) For information on other materials and products of interest in connection with this Section, see pages in the Industrial Section as follows:
1. For illustrated information on ventilating shafts, see 4D2.
2. For detailed data on Swartwout Ventilators, see xiii, The Ohio Blower Co.
3. For various asbestos roofings, see xxv, W. H. Johns-Manville Co.
4. For Keystone Copper Steel, see xix, American Sheet and Tin Plate Company.
5. For Target- and Arrow Roofing Tin, see xxiv, N. & G. Taylor Co.

11D3 Floor Systems, Partitions, Furring, etc.

(a) The principal literature, and the latest, pertaining to these products is issued by the manufacturers. Descriptions and illustrations of various types of construction with these materials will be found specifically in the following, and in some of the Handbooks and others mentioned elsewhere in this issue and in issue under 4B, 4C, and 4D.

(b) For "Composite Floors and Roofs," see 4D15.

(c) Report listed under 3A4-1 contains information on "Floor and Roof Construction" in a standard building.

(d) For "Floor hangers, Roof Connections and Devices," see Section 4D4.

(e) For Asbestos Building Lumber, Plaster Boards, Partitions, and Gypsum Blocks, see "List of Inspected Mechanical Appliances," Underwriters' Laboratories (3A66).

11D4 Floor Treatments, Coverings, and Paving

(For Tile, see 11C4.)

For "Wood Floors and Finishes and Parquetry Work," see 5A5, and for individual units for grounds, see 57A5.

(a) Among others, the Portland Cement Association (1E4) has issued the following:
1. "Suggested Specifications for Concrete Floors."
2. "Specifications for Concrete Roads, Streets, and Alleys, with Recommended Practice." (4D159-201.)
3. "Tennis Courts of Concrete."
4. "Concrete Feeding Floors, Barnyard Pavements and Concrete Walks."

(b) See, also, "Suggested Specifications for Concrete Floors," Engineering-Contracting, Jan. 24, 1917. (From pamphlet issued by Portland Cement Association.)

(c) "Concrete Floors in the Home," Scientific American Supplement, July 15, 1916.


(e) "Concrete Floors and Sidewalks," A. A. Houghton. The construction of square, hexagonal and other forms of mosaic floor and sidewalk blocks is illustrated and explained.


(g) "Standard Specifications for Concrete Hardeners" and "Standard Specifications for Concrete Floors," of Building Data League are referred to under 4D4.


(j) For "Terrazzo Floors," see 2F4e.
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11D5 Terms Relating to Plastic Products, Chiefly Plastering

(a) The following letter from a firm of architects in the Middle West has resulted in correspondence which will lead to further consideration of all structural nomenclature by the Institute's Committee on Materials and Methods in connection with the writing of specifications in the A.S.T.M., the N.F.P.A., and other bodies.

"We find a lack of consistency in the use of several words among architects, contractors, manufacturers, and we feel that the committee of the American Institute of Architects should define what certain words would mean when used on the drawings and in the specifications by architects.

"We find a great deal of difficulty with one in particular, the word "stucco." With some it is synonymous with rough-cast plastering, while with others it means moulded plastering run in place and then, again, others interpret it as ornamental plaster. In our office we refer to rough-finished plastering as "stucco," as opposed to the "molded plasterers" literature which refers to it as "stucco." We refer to plaster work run in place as "stucco." We refer to all ornamental plastering which is cast in moulds and fastened in position as "stucco work.

"Other architects, again, use entirely different terms, and we think, that the Institute can do much to bring about a uniform form.

(b) The word "stucco" is an old one, originally used in connection with anything run in place, such as moulding, or modeling, or other fine work as distinguished from ordinary plaster surfaces.

(c) The American Society for Testing Materials in its "Proceedings," Vol. 16, Part 1 (1916), pp. 423 to 471, gives the development of definitions, glossary of terms, and a description of all processes connected with cement, lime, gypsum, and all other kinds of mortars, plasters and plastic materials and processes under the caption of "Tentative Definition of Terms Relating to the Gypsum Industry—Serial Designation C61-16." This calls attention to the origin of the word "stucco" and the inconsistency with which they are applied to various products and processes.

In this, stucco is described as "a material used in a plastic state to form a hard covering for the exterior walls or other exterior surfaces of any building or structure." The word "stucco" is used without regard to the composition of the material, defining only its use and location of its use, as contrasted with the words "plaster" and "mortar.

(d) The U. S. Bureau of Standards, in Technologic Paper No. 70, says: "Stucco," as used in this case, and as a material used in a plastic state to form a hard covering for the exterior walls or other exterior surfaces of any building or structure. "Stucco," as here used, is a mixture of one or more cementitious materials, with sand or other fillers and with or without other materials, such as hair, coloring matter, etc. The word "stucco" is used without regard to the composition of the material, defining only its use and location of its use, as contrasted with the words "plaster" and "mortar."

(e) The Associated Metal Lath Manufacturers, in Bulletin No. 22, use the word "stucco" as referring solely to a covering of an exterior wall without regard to the composition of the material.

(f) The Portland Cement Association, in Bulletin No. 22, on "Portland Cement Stucco," use the word "stucco" to mean a covering of an exterior wall only.

(g) The Institute's Committee on Materials and Methods is considering the subject of standardization nomenclature in connection with these materials. See "Nomenclature" in Construction, July, 1917, including letter from Thomas Nolan on that subject.

11D6 Lathing and Plastering

(See, also, "Shingles, Lathing and Wall Boards."

Correspondence concerning Lathing Nails, see 5§3.

For "Mill Construction Buildings Protected by Metal Lath and Plaster," see 5§4.

(a) For units individually applied to walls and partitions as "ground" before plastering, see reference under 5§4.


(c) In the March Journal, under 3£4, brief announcement was made concerning the Permanent Specifications for Plastering, report prepared on the basis of suggestions resulting from developments in the original test-panels. Quite recently three additional stucco buildings have been erected and an extensive field examination made of stucco houses which have been standing five years or longer.

The report, however, contains many illustrations and much suggestive information of value to architects, builders, and prospective home-owners. This report will be amended from time to time as results become available.

(d) To the original test structure there has been built, since the report was prepared, an addition, which affords twenty-two new panels. These have been constructed in accordance with specifications prepared on the basis of suggestions resulting from developments in the original test-panels. Quite recently three additional stucco buildings have been erected and an extensive field examination made of stucco houses which have been standing five years or longer. The report, however, contains many illustrations and much suggestive information of value to architects, builders, and prospective home-owners. This report will be amended from time to time as results become available.

(e) A Committee to Standardize Architectural Specifications exists in the Illinois Society of Architects. This Committee called together plastering contractors, manufacturers, and dealers, individually and as representing various associations, and endeavored to secure cooperation in the form of a joint committee. E zzy Stone Hall, Chairman, furnishes the following notes:

The proposal has been to get the plasterers and the plastering material dealers to agree on a standard specification for material and workmanship; then to have the plastering material manufacturers guarantee their material to comply absolutely with the standard specification, stamping their guarantee on the packages or furnishing a certificate with each shipment, with the hope, ultimate that the law might be enacted which would make it fraud to sell building material under a false label, the same as is the case under the Pure Food and Drug Act with reference to food and drugs. With a known and acknowledged formula, it would be a comparatively simple matter to ascertain adulteration of material. With a material complying strictly with an acknowledged specification, it would be a comparatively simple matter to place responsibility for defective workmanship.

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The plan further provides that, if, in receipt of material at the job, the contractor is not satisfied that same is in accord with standard specifications, then he may notify the architect and material dealer and have samples taken for analysis, proceeded with the work only upon the architect’s instructions. If the analysis proves that the material delivered was in strict accord with standard specifications, then the responsibility for results is clearly upon the contractor, whereas, if the material delivered, upon analysis, proves not to have been in strict accord with standard specifications, then the responsibility for results may be properly placed on the material man, and he should be compelled to pay all expense, including labor, of replacing any defective work.

The Committee has been recognized by the municipal authorities to the extent that it has been asked to fix a standard for common plaster on wood lath, which shall be used as the basis of tests for determining the comparative value of substitute materials.

1. In the “Handbook for Architects and Builders” of the Illinois Architecture Institute, the local building code would be found “Standard Rules of the Measurement of Plastering,” adopted by the Illinois State Board of Education. This includes also a Tentative Outline Specification for Lath and Plaster Work; also Recommendations, Jurisdiction Claims and Patching of Plastering after other Trades as well as the city ordinance.

(f) The Employers’ Association and the Employers’ Association Local No. 96, of Washington, D. C., through a joint committee are drawing up a specification for lathing and plastering which is to be submitted to the Commissioners for incorporation in the Municipal Building Regulations of the City of Washington.

(g) In some of the pocket books and other publications listed there will be found descriptions and diagrams pertaining to the use of metal lath. The subject of supports for suspended ceilings, for example, is of particular importance, and is, perhaps, most fully treated in the four books listed under 11D3f.

(h) None of these, however, goes into this subject as completely as does the Manual Lath Handbook, which is described, together with many other activities of The Associated Metal Lath Manufacturers, under 11D3g. In this handbook the subject of supports for metal lath has been covered by descriptions and diagrams showing how to be provided with supported and suspended ceilings and partitions, column and beam coverings, ceilings and other types of construction. In the case of the last, and most important feature, several drawings serve to show Standard Details of Suspended Ceilings for all types, which are accompanied by notes and recommendations. A detail of cornice and cove lathing is also shown.

Illustrations of various types of metal lath are also given, with tables of weights and weights of each. In this connection attention is called to the fact that The Associated Metal Lath Manufacturers have standardized the weights of the metal lath as the figures given on pages xiv and xv of the Industrial Section, where, also, may be found “Standard Details for Fire Retardent Belt Enclosures and Elevator Shelves,” “Fire Retardent Lathing and Plaster,” etc. and other data.

Attention is called to error on page iv of the Industrial Section, September issue, where the omission of a decimal point after the first figure in the weight made it, for 34 gauge, appear 340 lbs. per sq. yd. instead of 3.40—likewise with the other weights given.

It is of special interest to note the attention which these metal lath manufacturers have devoted to the subject of plastering, as an effort to bring the importance which should be attached by all manufacturers, not to their product alone, but to all factors connected with its proper utilization. There will be found in the Handbook:


(i) The before-described methods of procedure which are being developed for the supporting and applying of lathing for ceiling construction are of particular interest in view of the many specifications, some of them governmental, which call for the lath on all suspended ceilings and for all cornices, beam work, vaulting, and false work to be “supported and secured in a rigid, thoroughgoing manner, and workman-like manner to approval.” In consideration of this all too frequent practice, it is no wonder that equal conditions do not always prevail, even in the estimating, and that controversies frequently arise as to the interpretation of “stiff,” “rigid,” “satisfactory,” “to approval” and the other terms which are used instead of definite instructions or direct reference to a standard to be followed.

(j) In the case of New York City, for instance, this does not apply, for in its Building Code are probably as complete and detailed requirements for ceiling constructions as can be given. The Code is as follows: Section 130.5(a) will underto provide a recommended gypsum plaster to be used as the plastering material upon the already mentioned types of partitions and ceilings.

(k) The value of lime as a wall plaster depends, not only on its plasticity, but on its ability to retain water, so that it may be spread freely on the absorbent surface of the preceding coat. A method has been devised for measuring this so-called “working quality” by spreading the mortar on a standard absorbent surface and adopting a standard means of determining when it has dried out so much that it can no longer be worked.—(Report, Bureau of Standards, 1916.)

(l) From “The Painting of Green Plaster,” by John E. Langley, discussion by Ernest G. Schurgin, Journal of the Society of Con- structors of Federal Buildings, Vol. 11, No. 3, June, 1917, the following is quoted:

“One authority (the I.C.S.) in speaking of new walls states: ‘It does not appear that any plastering in oil can, with serviceable effects, be done on stucco (and this applies to plaster also), unless the stucco is dry, in itself, and the walls have stood sufficiently long to have given the requisite degree of dryness. Stucco, on dried, for walls, may be painted much sooner than otherwise. All masonry walls should, therefore, be surfaced to be painted immediately upon completion of the building.”

(m) For list of the publications of the I.C.S. just referred to, “Publications of the Industrial Correspondence Schools and Laboratory upon this section, see 11D3k, Materials in General.


(p) The Committee on Treatment of Concrete Surfaces of the American Concrete Institute which has under consideration the development of specifications for stucco and for surface treatments of concrete has given considerable attention during the coming year in inspection of existing structures and in supplementary laboratory and experimental work. Chairman, J. C. Pearson, Bureau of Standards.


STRUCTURAL SERVICE DEPARTMENT

COMPETITION ANNOUNCEMENT

The Board of Control of the state of California announces to all architects who are citizens of the United States:

That a Competition has been instituted for the selection of an architect to design and supervise the construction of state buildings to be located in the city of Sacramento, Cal., for the construction, equipment, and furnishing of which the people of the state of California have voted $3,000,000 in bonds, the site having been donated by the city of Sacramento.

Under the law, the State Architect shall act as architectural adviser in connection with the Competition.

This Competition will be conducted in two stages.

The first stage is open to all architects, citizens of the United States who have had the necessary experience, subject to the conditions prescribed in the Program of the Competition.

The second stage will be open to eight architects selected by the Jury from those competing in the first stage.

No competitor shall receive any remuneration unless chosen by the Jury and submitting drawings in the second stage.

The Program for this Competition is approved by the San Francisco Subcommittee on Competitions of the American Institute of Architects.

Architects desiring to compete must file with George B. McDougall, State Architect, Forum Building, Sacramento, Cal., a written request for a copy of the Program. On December 15, 1917, copies will be mailed simultaneously to all architects from whom written requests for same have been received. Copies will be mailed to architects making written requests for same after December 15, 1917, at the time of the receipt of such later requests.

(Signed) BOARD OF CONTROL OF THE STATE OF CALIFORNIA

MARSHALL DE MOTTE, Chairman
CLYDE L. SEAVEY
EDWARD A. DICKSON
Members of Board of Control
P. J. TEHANEY, Secretary

Dated: November 1, 1917.

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Residence of Wm. W. Bock, Esq., Eagle Point Colony, Toledo, Ohio, Built of Hy-tex Equitable Grays, Shade No. 100, laid in American Bond with 7/8 inch gray concave mortar-joint.

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Architects and Boards of Underwriters are severe critics—especially in devices pertaining to the saving of lives. It is only natural that they should be, for the responsibility placed upon them is a serious one.

Necessarily, therefore, they investigate thoroughly before they approve any such devices. Hence we apprise very highly the approval of

**Von Duprin**

**Self-Releasing Fire Exit Latches**

by such authorities as the National Board of Fire Underwriters, New York Board of Fire Underwriters, New York Bureau of Buildings, International Association of Building and Factory Inspectors—by architects in the service of our own and foreign governments—and by leading school and theater architects in all parts of the country.

Investigation on your part will undoubtedly lead you to the same conclusions. The strength, the simplicity, the durability of Von Duprin Devices have made them the standard of the world.

The slightest pressure on any part of the crossbar instantly and unfailingly releases lock and latches simultaneously.

Von Duprin Devices are always shipped ready for installation.

Our service department is always ready to cooperate with you and to advise you as to the Von Duprin design best adapted to meet your requirements. Ask for Catalog 12-S.

**Vonnegut Hardware Company**

Indianapolis, Indiana

Manufacturers and Distributors
The Cutler Mail Chute is used in thousands of buildings in every part of the United States, and abroad; has been for more than a quarter of a century, and will remain, the standard of excellence in every respect.

It has received the highest award wherever exhibited, and is being furnished to all those who consider quality as well as price, at exceptionally low figures.

The construction developed in long experience as the only safe one is protected by litigated patents, which have been sustained and which counsel advises are being infringed.

You will not know what our price is until you get it from us, and, when it is before you, we shall be favored with your business.

Agents in every important center.
Sweet's Index Pages 1726 and 1727.

CUTLER MAIL CHUTE COMPANY
ROCHESTER, N. Y.

A REPRESENTATIVE WILL CALL ON REQUEST
The top arrow points to the outside louvers or dampers which control the suction of the ventilator, and are themselves controlled from within by a rust-proof brass chain (second arrow) brought down over rust-proof brass pulleys. Dust settling on the dampers discharges on the outside, not within the building.

The ventilator revolves sensitively on a centrally balanced, accurately machined, frictionless and non-corrosive bearing using hard composition balls and fiber washer. The ventilator always faces away from the wind, so that a partial vacuum is continually forming at the mouth of the ventilator, which continuously sucks up the used air from below.

Both the top supports, the angle iron rings and the "tripod" which supports the bearing, are of sturdy angle iron, hot galvanized after forming on template and punching. The ventilator is so rigidly built that the 12-inch size supports a man weighing 240 pounds, without permanent distortion.

The ventilator is built of the highest grade rust-resisting, galvanized sheet metal. The Swartwout never corrodes or collapses in use. Top of collar and bottom of hood are stiffened with galvanized angle iron rings. The rim runs absolutely free around the collar of the base.

Swartwout ventilators are built for permanence. From the heavy gauge sheet metal to the non-corrosive bearing, from the angle iron hot galvanized after forming and punching to the rust-proof pulley, every detail of design and material is selected to make a permanent investment for the customer.

For full details, capacities, exact ventilator and base specifications, etc., write for 24-page handbook, "The Gospel of Fresh Air"—8th Edition, just off the press.

THE OHIO BLOWER CO., 9229 Detroit Ave., CLEVELAND, OHIO
Standard Details for Fire Retardant Using Metal

Designed and recommended by the Engineering Department. Cuts reproduced from THE METAL LATH HANDBOOK companies listed below, or by the Commissioner of the Associated Metal Lath Manufacturers.

The U.S. Bureau of Standards has made its final examination in the tests of "Stucco for Permanence" "Metal Lath" maintains its high standard of results as a base for "Stucco." "Metal Lath" panels finish the test with a 100% rating. "Metal Lath" is proven a most reliable "Stucco" base.

Progress Report (Technological Paper No. 70) will be sent upon request.

The final report as soon as it is made and printed.

Send in your name and address for your copy.

THE ASSOCIATED METAL LATH MANUFACTURERS

THE AMERICAN ROLLING MILL COMPANY, Middletown, Ohio.
THE BERGER MANUFACTURING COMPANY, Canton, Ohio.
THE BOSTWICK STEEL LATH COMPANY, Niles, Ohio.
CONSOLIDATED EXPANDED METAL COMPANIES, Braddock, Pennsylvania.
THE GENERAL FIREPROOFING COMPANY, Youngstown, Ohio.

INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
November, 1917
Metal Lath Serial Nos. 3-4

XV

Metal Lath Enclosures and Elevator Shafts and Plaster

Associated Factory Mutual Insurance Companies of Boston, of which will be gladly sent you by any of the member Lath Manufacturers, 901 Swetland Bldg., Cleveland, Ohio.

Standardized Metal Lath

The Associated Metal Lath Manufacturers have standardized the following weights per gauge for metal lath:

- 24 gauge, 3.40 lbs. per sq. yd.
- 25 gauge, 3.00 lbs. per sq. yd.
- 26 gauge, 2.50 lbs. per sq. yd.
- 27 gauge, 2.33 lbs. per sq. yd.

Their recommendation is “Metal Lath, 24 gauge, weighing not less than 3.40 lbs per square yard.”

Specify by WEIGHT and Gauge.

901 Swetland Bldg., Cleveland, Ohio

WAUKEE CORRUGATING COMPANY
THWESTERN EXPANDED METAL COMPANY
N METAL COMPANY
SYKES METAL LATH AND ROOFING COMPANY
SED CONCRETE STEEL COMPANY

Milwaukee, Wis.
Chicago, Ill.
Boston, Mass.
Niles, Ohio
Youngstown, Ohio

Industrial Section

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

November, 1917
ELASTICA STUCCO
The Standard Magnesite Stucco

Composition: ELASTICA STUCCO is a Magnesite Oxy-Chloride Cement. Magnesite is the cementing ingredient, as Portland Cement is in Portland Stuccos. Magnesite, mined originally as a white rock, is calcined, or burned, and ground to a fine powder between 140- and 200-mesh screen. The Mixing Compound, Chloride of Magnesium, serves the same purpose in ELASTICA that water does with Portlands. Chloride of Magnesium is a salt compound which has an affinity for, reacts with, and causes the set with Magnesium Oxide, commonly known as Magnesite Cement.

Scratch Coat: The Scratch Coat is of Magnesite, which is the same stuff as long-fibered asbestos, which serves as a binder, pure white, washed and graded Silica glass sand, which serves as a fill; and granulated cork, which is used for insulation and filler. Long-fibered asbestos, the binder, takes the place of hair, as it is used in Portland Cements. Asbestos is a non-conducting material and will not deteriorate and lose its value as a binder in a comparatively short time, as does hair. Long-fibered asbestos makes the material "fatty," makes it work easier under than most materials, prevents it from creeping—falling off the plasterer's hock, so that he has to place it on the wall several times before it stays.

Various Constructions: ELASTICA can be applied over any construction now being used for buildings. It may be used with perfect satisfaction over brick, hollow tile, wood lath, or patent sheetings. We advocate using wood lath or patent sheeting, because ELASTICA gives perfect satisfaction over these less expensive wood constructions.

Old Frame Buildings: There is also a large field for ELASTICA in old frame buildings. A frame house, properly stuccoed with ELASTICA, while being hard and possessing four or five times the tensile strength of Portland Cement, is elastic and will not crack unless an unusual amount of settling takes place or the building is not properly insulated: where the studding, sheathing, lath, etc., are not properly secured or nailed.

Non-Conductor of Heat and Cold: ELASTICA STUCCO is an absolute non-conductor of heat and cold. Magnesia is one of the best insulation materials on the market today. Magnesia is used as a firewall, as an insulator, in firebrick in steel mills where imperviousness to extreme heat is absolutely necessary. It is used for refrigerating plants as an insulation, as cork. ELASTICA STUCCO is an absolute non-conductor of heat and cold, and makes the house warmer in winter and cooler in summer. ELASTICA, because of its slight expansion when it sets, does not contract and crack, but makes an absolutely monolithic job and adheres closely to all openings around doors and windows, thus keeping out the cold weather.

Fireproof: ELASTICA STUCCO is absolutely fireproof. The use of Magnesite in steel furnaces and firebrick will confirm this. Possibly the least fireproof material in the composition of ELASTICA is the Silica glass sand. The fireproof qualities of ELASTICA make it a far better building as a building material for insurance companies than other materials, and its use reduces the rate.

Waterproof: ELASTICA is absolutely waterproof. We would advise disposition of this question by merely making a test of a sample which we will send on application. The waterproofness of ELASTICA will be readily apparent.

Factory Mixed: ELASTICA is a factory-mixed product. This insures an absolutely uniform cement as to proportions of ingredients and coloring matter. Every bag of cement is exactly the same. This has been one of the most vital drawbacks of stucco as a building material. In most other stuccos, the mix is left to an incompetent workman who mixes the material on the job. Every pound of material which enters into the composition of ELASTICA is thoroughly weighed and mixed at the factory by an exact length of time in the most efficient mixing machine made.

Vinyl of Finishes: ELASTICA may be obtained in a great variety of finishes. The finish coat is made in green, red, buff, brown, or white; in addition, any dash may be applied over these colored backgrounds. There are 70 to 80 different finishes to select from. Effects are produced by the use of granite, quartz, and other dashes. Two or more colors may be used on a house. This gives a very pleasing contrast.

Elasticity: ELASTICA STUCCO possesses an elasticity which, considering the hardness of the material, is exceptional. ELASTICA, while being hard and possessing four or five times the tensile strength of Portland Cement, is elastic and will not crack unless an unusual amount of settling takes place or the building is not properly insulated: where the studding, sheathing, lath, etc., are not properly secured or nailed.

Durability: ELASTICA is extremely durable and will not crack because:
1. ELASTICA is factory mixed.
2. ELASTICA is absolutely waterproof, and so does not permit of dampness penetrating the backing over which it is used.
3. ELASTICA expands slightly while setting, and weather changes have no effect on it.
4. ELASTICA takes up shrinkage and expansion of lumber without the material cracking.

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Cost and Covering Capacity: One ton of ELASTICA, two coats, each coat ¼-inch thick, will cover between 85 and 100 yards to the ton, depending upon the construction over which it is used; over 1½-inch wood lath, lathed ¼-inch apart, about 90 yards to the ton, or better, will uniformly be obtained; over patent sheetings, about 85 to 95 yards to the ton; and over tile or brick, between 75 and 90 yards, depending entirely upon the way the job is lined up. The dry rock dash will uniformly cover about 200 yards to the ton. From these estimates it is easy to figure the cost per square yard for material. In figuring the covering capacity, no allowance is made for openings, unless a single opening contains 6 square yards, or more, in which case it is deducted.

Cost of Applying: ELASTICA can be applied at a great deal cheaper per square yard for labor than other stuccos for the reasons:
1. That it is a factory-mixed product, eliminating a great deal of labor on the job in mixing ingredients.
2. Because it works easily under the trowel and covers many square yards more than other stuccos, giving a saving in tonnage.

Freezing Weather: ELASTICA can be applied equally satisfactorily in warm weather or in weather below zero. It will not freeze. It is mixed with a Chloride of Magnesium, a chloride salt solution, and positively will not freeze under the severest weather conditions. Buildings may now be covered at any time during the year.
Architectural Beauty

Depends on arrangement and material. Architect designates arrangement. Manufacturer produces material.

French’s Peerless Mortar Colors

Are the Alpha and Omega of Mortar Color. They were the first colors produced, and they are the last word in ARCHITECTURAL DEVELOPMENT.

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For true and even surfaces and angles, Hydrated Lime Plaster stands supreme. It is a slow-hardening plaster, and does not harden before the mechanic has time to do his work properly. All ridging due to lath expansion is easily eliminated without expense.

Auditorium acoustics, or quiet conditions in hospitals and school buildings are greatly improved by Hydrated Lime Plaster. This is the reason why it is accepted by the most prominent architects as their standard material—because it gives the same good results that were formerly accomplished with lump lime plaster, but has none of the disadvantages of lump lime.

Write for your copy of “Auditorium Acoustics.”

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XVIII ARCHITECTURAL BRONZE Serial No. 11

WITHIN THIS MAY SOLEMNLY REPOSE THE MORTAL REMAINS OF
JOHN H. CORE AND WIFE MARTHA ANNE CORE

JOHN H. CORE WAS BORN IN BELLEHAVEN IN THE
COUNTY OF ACCOMACK, VIRGINIA ON NOVEMBER 12TH, 1838
DIED FEBRUARY 11TH, 1910. HE WAS A CONFEDERATE SOLDIER HAVING BEEN A MEMBER OF THE VAIN INFANTRY, SERVED IN THE COMMISSARY GENERAL'S OFFICE AND WITH MOSS BALDWIN OF PARTIZAN RANGERS.

MARTHA ANNE CORE NEET RANTON WAS BORN IN NORFOLK COUNTY, VIRGINIA ON MARCH 2ND, 1826. DIED JUNE 14TH, 1912. SHE WAS A FAITHFUL AND DEVOTED WIFE AND A TRUE FRIEND, SACRIFICING SELF FOR OTHERS. EVELORE OF BENEVOLENCE AND CHARITY AND AN EXEMPLARY CHRISTIAN. HER DEVOTION TO AND AFFECTION FOR HER HUSBAND WAS VERITEOUS. HER HUSBAND LOVED HER WITH ALL HIS HEART AND WITH ALL HIS SOUL AND WITH ALL HIS MIND AND WITH ALL HIS STRENGTHS. SHE WAS ALL THIS WORLD TO HIM. HIS LAST REST ETERNAL.

MENCONI BRO. SCULPTORS.
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INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
November, 1917
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—National Board of Fire Underwriters Committee on Fire Protection.

Why build to burn when both service and absolute security are embodied in fireproof, serviceable and dependable metal roofings? KEYSTONE COPPER STEEL raises the durability standard for metal roofs and all exposed sheet metal work.

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INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
November, 1917
The Largest Automobile Factory in the World

Overland, Building 42 Mills, Rhines, Bellman & Nordhoff, Architects.
Pond Continuous Sash in sawtooth. Lupton Counterbalanced Sash in windows.

With a site already surrounded by other buildings, and land values rising, expansion upward seemed more practical to the Willys-Overland Company than relocation.

Yet air and light were essential everywhere for the intensive and accurate workmanship required. With a floor area exceeding 100 acres and a capacity of more than 1,000 cars a day, no means of securing them could be overlooked.

The following methods, among others, were used:
Arranging each of the larger buildings around a series of light courts;
Using sawtooth roofs on the main buildings, and Pond "A-frame" roofs over the courts, thereby utilizing the latter for manufacture and storage;
Using COUNTERBALANCED instead of pivoted ventilator sash, thereby ensuring equal openings at top and bottom, and automatic air movement;
Using TOP-HUNG, instead of centre-pivoted, continuous sash for all roof openings, on account of the weather protection thereby given when open.

These methods are described and illustrated, with many from other famous factories, in our booklet, "Air, Light, and Efficiency," sent free on request.

It is noteworthy that Lupton Steel Sash, Counterbalanced Type, and top-hung Pond Continuous Sash in Pond A-frames and sawtooths, predominate in the Willys-Overland factory.

Every new factory presents its own problems in lighting and ventilation. Let us help you with yours

DAVID LUPTON'S SONS CO., Westmoreland Street and Trenton Avenue Philadelphia, Pa.

LUPTON PRODUCTS
Lupton Steel Sash
Pivoted Factory Type
Counterbalanced Type for factories
Counterweighted Type for offices
Power House Type
Pond Continuous Sash for Pond Truss, sawtooths, monitors and side walls
Pond Operating Device for long lines of sash
Lupton Rolled Steel Skylight
Lupton Steel Partition and Doors
Lupton Steel Shelving

FINISHED CARS UNDER POND A-FRAME ROOF

Pond A-frames on Overland light court

November, 1917
IT is known that our organization has survived a creative, competitive period in reinforced concrete construction, design and practice. We have demonstrated conclusively that we can render engineering service on a fee basis and leave the architect free to specify any type of reinforcement that has proven merit.

We will gladly throw the whole force of our highly specialized organization on one project to help carry through a commission in an unbelievably short time.

We are able to furnish engineering service from any one or all of our offices named below.

Our special Bulletins give scientific examples of service rendered, covering the following types of buildings:

- Factories
- Warehouses
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- Office Buildings

In writing for particulars, kindly use business letterhead or enclose your card.

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November, 1917
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LAPIDOLITH
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The firms below have already acted on this advice. Their floors and many others are now dustproof and wear-proof for all time:

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- B. F. Goodrich Company
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- Proctor & Gamble Company
- Swift & Company
- United States Steel Corporation
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Lapidolith should be flushed on all concrete floors, new or old.

For scientific proof, specification form, and sample flask, write to

Department 21

L. SONNEBORN SONS, INC.
Manufacturers of Cemcoat, the Washable Wall Coating

264 Pearl Street New York

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November 1917

THIS is a bad time of year to be held up in getting your windows hung.

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In Stock—Ready to Ship.

Standard in Size, in Quality in Satisfactory Service

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RUST-RESISTING
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264 Pearl Street New York

Used for Years

INDUSTRIAL SECTION

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

November, 1917
If You Have Investigated
the subject of laundry disposal in Hospitals and
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with the eminent Architects and Hospital
Executives who conceived and designed the

PFAUDLER
Glass Enameled Steel
LAUNDRY CHUTE

that absolute isolation en route is the only
means of preventing the distribution of dan-
gerous infections from soiled linen.
The Pfaudler Enameled Chute is the only iso-
lated conveyor which can be thoroughly cleansed.
To cleanse it, a valve is turned; a shower of
hot water flushes its non-absorptive, glossy
interior, and flows into the sewer; that is all,
for it cannot rust.
Could anything be easier or more economical?

Let us tell you more about it

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NEW YORK, 110 West 40th St.  CHICAGO, 1001 Schiller Bldg.
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store never fail to be impressed by
the magnificent pastel-tinted concrete
walls. It is a decorative effect achieved with

R.I.W. FLAT WALL FINISH
—protective as well as decorative. It is
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washing with soap and water. Ask about it.
Write Department 71 for color chart and
full particulars.

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Technical and Scientific Paint Makers Since 1848
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REMEMBER ITS WATERPROOF
R.I.W.
STEEL NEED NOT RUST!
WOOD NEED NOT ROT!
NOR CONCRETE DUST!

Abercrombie & Fitch Building
New York City
Starrett & Van Vleck, Architects

Interior cement walls protected and decorated
with "R. I. W." Flat Wall Finish. Metal
window frames and sashes protected against
corrosion by "R. I. W." Baking Tockolith.
Target-and-Arrow Roofing Tin

This is a specialty of ours, handed down from the early days of our business. In this brand we have preserved an old-time standard of manufacture, for the use and benefit of present-day architects. Few building materials have had so thorough a test of time as Target-and-Arrow Roofing Tin. It remains today the same durable quality that we have supplied to American metal workers for more than seventy years. It costs a little more than other roofing tin, so you are not likely to get Taylor quality if you write a specification that permits substitution.

Specify Taylor's Target-and-Arrow Roofing Tin, either IC or IX thickness, as desired. This Roofing Tin is sold at a fixed resale price.

Our catalogue is in “Sweet’s,” all issues. We have full-size working drawings describing in detail the method of applying heavy ribbed tin roofing, and shall be glad to send these to any one interested, upon request. These drawings will also be found among the Service Sheets contained in the portfolio issued by the Architectural Service Corporation, Philadelphia.

N. & G. TAYLOR COMPANY of Philadelphia

Headquarters for Good Roofing Tin Since 1810

The Old Way

Evans “Almetl” Fire Doors

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have received the highest approvals accorded any product—the endorsement of satisfied users.

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THE HEART OF THE HOME IS THE FIREPLACE THE BRAINS OF THE FIREPLACE ARE IN THE

THE COLONIAL WAY

THE COLONIAL WAY

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18 First St.
Property Loss by Fire in the United States

<table>
<thead>
<tr>
<th>Year</th>
<th>Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1910</td>
<td>$214,003,300</td>
</tr>
<tr>
<td>1911</td>
<td>$217,004,575</td>
</tr>
<tr>
<td>1912</td>
<td>$206,438,900</td>
</tr>
<tr>
<td>1913</td>
<td>$203,408,250</td>
</tr>
<tr>
<td>1914</td>
<td>$221,439,350</td>
</tr>
<tr>
<td>1915</td>
<td>$172,033,200</td>
</tr>
<tr>
<td>1916</td>
<td>$213,539,670</td>
</tr>
</tbody>
</table>

Saving towns from fire that wipes them off the earth!

Again and again it happens—we see a little village busily growing into townhood. We see the town prosper into a thriving young city—and then, the scourge of fire strikes and in one awful night that community of progress disappears, leaving nothing behind but a blackened scar—a heritage of loss and distress.

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New York City
10 Factories—Branches in 55 Large Cities

JOHNS-MANVILLE
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Architectural Design Sculpture Mural Painting

Modeling of Ornament

These courses, conducted in cooperation with the Society of Beaux-Arts Architects, the National Sculpture Society and the Society of Mural Painters, respectively, are modeled on the principles of teaching of the Ecole des Beaux-Arts of Paris, and are intended for the instruction of students of Architecture, Sculpture, Painting, and of apprentices and workmen in the artistic trades allied to Architecture. Any course may be entered at any time during the year. The courses in Architecture and Painting may be followed outside of New York City under representatives of the Institute. For the courses in Sculpture and Ornament Modeling, instruction is given in the Studios at the Building of the Institute.

Circulars of Information concerning any of the courses will be mailed to those applying for them.

INDUSTRIAL SECTION November, 1917 JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS November, 1917
What Poets Have Said

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"the varnish that lasts longest"

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“Beauty is as good as Ready Money”
“Beauty intoxicates the Holder and Beholder”
“Beauty is the Eye’s Food”
“Beauty is truth, Truth Beauty”

“Beauty opens Locked Doors”
“Beauty charms, then Persuades”
“The Beautiful are never Desolate”
“A thing of Beauty is a Joy Forever”
“Beauty doth varnish Age”

We are speaking of Varnishes for house work—Murphy Transparent Interior and Murphy Transparent Floor Varnish.

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Chicago

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Newark
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Roll Toilet Paper Holders of china, for standard rolls and the No. 1 type rewinds the paper

A white coated metal recess sheet Paper Holder that is flush with the wall

White china Pipe Escutcheons

<table>
<thead>
<tr>
<th>Pure White China</th>
<th>versus</th>
<th>Nickel Plate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built in the wall</td>
<td>&quot;</td>
<td>Screwed on</td>
</tr>
<tr>
<td>Recessed in the wall</td>
<td>&quot;</td>
<td>Projecting from</td>
</tr>
<tr>
<td>Economy</td>
<td>&quot;</td>
<td>Continual upkeep</td>
</tr>
</tbody>
</table>

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November, 1917
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INDUSTRIAL SECTION  JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS  November, 1917
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Because creosoting preserves them, prevents swelling, shrinking, warping, and they withstand exposure to all kinds of weather.

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2244 Merchants Bank Building, St. Paul, Minn.
"Get" the Fire or Get Away from It?

Which is the Fundamental Principle of Safety?

GETTING away from fires, rather than "getting" fires before they get away, would seem to be regarded as the fundamental principle of safety from fire in the usual run of laws enacted to provide for this safety. The nature of these laws implies the expectancy that once a fire begins it inevitably progresses to a disastrous finish, for the laws provide mainly for means of getting out of buildings (exits) and give little, if any, consideration to getting control of fire before it gets out of hand.

Whereas, to "get" the fire before it gets away is the fundamental principle of safety from fire!

SAFETY POSSIBLE INSIDE BUILDINGS

Safety laws virtually say this to those in whose interests they are enacted: "You cannot be safe from fire in any building; the only place of safety is outside buildings. The laws provide for exits whereby you may reach safety, and it is up to you to use this means of assuring your own safety."

EXIT REQUIREMENTS SHIFT RESPONSIBILITY

Really, in this respect, laws shift responsibility of assuring absolute safety from fire from where it rightfully belongs to the shoulders of those whom the laws are intended to protect. Those who are responsible for conditions of safety may well argue that in providing exits they have done all that is required of them, and ignore altogether the need of doing what is necessary to provide for the control of fire where it originates—the fundamental requirement for safety from fire.

CONTROL FIRE WHERE IT ORIGINATES

Fire is controlled where it originates by water discharged from automatic sprinklers opened by the heat of the fire in about the same time as it takes to remark this fact.

Automatic sprinklers, according to the authoritative records of the National Fire Protection Association, have controlled, where they originated, 95.47 per cent of 18,795 fires during a period of twenty years.

SPRINKLER PROTECTION MOST EFFICIENT WHERE LIFE-HAZARD GREATEST!

But where life has been most seriously hazarded, sprinkler protection has been most effective! Sprinklers successfully controlled 98.1 per cent of 10,285 fires in fifty classes of property where life was most seriously hazarded—2.63 per cent better than the general average!

And in these fifty classes (36 per cent of total number listed) were 60 per cent of all the fires!

Which is quite sufficient justification for the National Fire Protection Association's Life Safety Committee's estimate of the value of automatic sprinkler protection as an assurance of safety to life from the hazard of fire:

"It is today an almost unquestioned fact that the automatic sprinkler affords the largest degree of protection of life against fire. The immense number of fires which have either been promptly extinguished or held in check by the quick operation of the automatic sprinkler definitely demonstrates this when the record is compared with similar fires starting in buildings which had no sprinkler protection and in which large loss of life has resulted."

And mark this. All of the hue and cry over exits is because of the loss of life in fires in buildings not equipped with sprinklers. In nearly 19,000 fires in sprinklered properties not a single life has been lost under such circumstances as obtained in the fearful holocausts in the Triangle waist factory in New York, the overall factory in Binghamton, and the Diamond candy factory in Brooklyn.

Automatic Sprinklers "Get" the Fire Before It Gets Away—The Fundamental Principle of Safety from Fire
Important heating details

_for the_ architect and engineer

These devices have been unqualifiedly approved by thousands of practical tests in the heating industry.

They play a most important part in the proper and economical functioning of the heating plant.

Learn their names and mention them precisely in heating specifications.

You will then have the gratification of a thoroughly pleased client.

AMERICAN RADIATOR COMPANY

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They tell absolutely nothing about such important facts as durability and permanence of insulation value.

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Once a sudden flood submerged the boiler-house for several days.

But it didn't harm the "85% Magnesia" coverings. They dried out quickly and were as good as ever.

Engineers throughout the world have long recognized "85% Magnesia" as the best all-round covering for pipes and boilers. It is a world's standard.

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THE AMERICAN INSTITUTE OF ARCHITECTS
THE OCTAGON, WASHINGTON, D. C.

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Georgia.—*William J. Seward, Candler Bldg.; †W. J. J. Chase, Candler Bldg., Atlanta.

Illinois.—*Chas. H. Hammond, Steinway Hall; †Henry K. Holsman, 233 S. Michigan Avenue, Chicago.

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THE DOORWAY OF THE OCTAGON
From a photograph by Ben J. Lubschez
Shadows and Straws

OVER THREE MONTHS have elapsed since the shortage in workmen's houses was brought to the attention of the Government. During that period the question has been under consideration by the Council of National Defense, but at this moment (December 15) the nation remains in ignorance of its cogitations and looks in vain for any evidence that the problem has been grasped in any sense commensurate with its magnitude.

As one tries to divine the reason for this, two prime factors seem to evolve out of the mass of testimony and speculative criticism. First, we have not the background which enabled England to meet her own similar problem with foresight and an energy which are revealed in the article by Mr. Ackerman which immediately follows. Secondly, the problem, at some point in the Council, has encountered a mind not possessing the imagination to visualize either the necessitous character of modern war, the scale of its demands, or the methods by which, and by which alone, we may stimulate our industrial production to the maximum. In these days one hesitates long before resorting to criticism of any of our national war activities and the methods by which they are administered. Everyone desires to be patient, to realize the intricate nature of our problem and its consequent requirement for time in which to organize and coordinate all the ramifying factors. But the time has assuredly come when it becomes a national duty to point out that industrial production cannot be stimulated by machinery alone, and that failure to grasp the problem of providing houses for workmen, in which they may enjoy a measure of comfort and rest, is failure to make war as England and Germany are making it.

In Washington, one senses the feeling of timidity in meeting the problem. It is said that “the country is not ready” for any such far-reaching solution as England found it necessary to adopt. One hears that “our problem is different,” and that we must meet it in our way. All these things contain a modicum of truth, but the fact is that we are not meeting the problem at all, except in sporadic cases, and that even then we are not meeting it as we should.

Allowances must be made for the confusion into which the question has been thrown by the multitude of selfish interests which have sought advocacy of this plan or that, according as it affected their own individual interests. Nothing has contributed more toward obscuring the really fundamental factor of federal recognition of the problem than the thrusting forward of every conceivable sort of scheme by which houses might be built or workmen might be sheltered. Instead of throwing light on the problem, they have shadowed it with doubts and suspicions, and we are the more emboldened to say this since President Wilson himself, in his message to Congress, took occasion to indicate that the profiteers have not all been regenerated by war. They have shown themselves in the discussion of homes for workmen, as elsewhere, and have done a damage to the nation of which time will show the full extent.

We regret sincerely that the task of placing this issue before the people of the United States should fall to a publication which serves the organized profession of architecture in this country. We recognize that in small minds we
too shall engender a suspicion of selfish purpose. But we dismiss the thought and the fear as unworthy of consideration. Our national interest has been too clearly demonstrated to cause us a moment’s hesitation in stating our faith, and we believe it to be our solemn duty to point out the essential fact that it was not until England dealt broadly with the question of workmen’s houses and workmen’s comforts and workmen’s rights to rest and recreation, that she began to attain the necessary volume in her war-time production of necessities. This is a truth which no sane man in England will deny.

It is also stated in Washington circles that those in charge of this matter are insisting upon a narrow definition of what constitutes a war emergency. The problem, so it is said, is one which only relates itself to the immediate plant where munitions are being made. To us, this strict line of demarcation is only another evidence of lack of imagination. Who can say where production of war munitions is being sacrificed by a house shortage? It may be at the mine or the ore-bed, or at any one of ten thousand points where the little streams rise to fill the river of industry. It is scale that we lack. It is imagination of which we are lamentably short. And we say, and without hesitation, that this is a problem which can be better visualized by men whose imagination is their stock in trade than by those whose vision is confined within the realm of capital investment and interest. War is not a process of saving money—it is a test of a nation’s imagination in spending it.

Again we hear it stated that the crux of our problem is to meet emergencies in any temporary manner such as will accomplish the result. It seems to be taken for granted that the mere provision of beds and roofs will satisfy all requirements. As against this, we may point out the one feature of English experience which stands out above all the others, and which is revealed in the illustrations which accompany Mr. Ackerman’s article. It was not until England began to build good houses for workmen with families; good boarding houses with good comforts for single men; halls, churches, institutes, theaters, and recreation facilities, that she began to be able to hold her workers at their tasks and to obtain from them that tremendous volume of munitions without which she was helpless in the face of an enemy which had spent years in preparing for these very things. Temporary houses may be a solution in certain rare emergencies. On the whole, they are no solution, and they will involve a national loss in industrial production and a national waste when the time comes to demolish them.

Is it true that the United States is not ready to meet such an emergency with as high a degree of intelligence and skill as England employed? We do not believe it. We affirm, on the contrary, that unless it is met with imagination and with a conception of its scale such as will insure the one result sought, the nation will visit its indignation upon those who deal feebly and unintelligently where they should deal strongly and brilliantly with a problem of vital national import.

As this question arose and took prominence through a war emergency, although it is one which has been with us for a century, it seems only to complicate the problem by pointing out that the manner in which we do deal with it will affect our future more than any other thing connected with the war. But this is a fact, and all doubt of it will vanish when one has finished reading the story of England of the present and England of the future, as narrated on the following pages.

We believe that only by the appointment of a Workmen’s Home Administration (we abominate the word “housing”) with broad powers, directed by imagination and not by narrow practicality, can the United States begin seriously to deal with the paramount problem of building ships, making guns, munitions, and all the war necessities upon which our success depends absolutely.
What Is a House? IV*

By FREDERICK L. ACKERMAN

Introduction

This study is the result of a visit to England in October, 1917, the primary purpose of which was to gather information relating to the operations of the British Government in providing adequate houses for a vast army of munitions workers, to her program for building a still greater number of workmen's houses as a measure of post-war reconstruction, and of discovering how these undertakings were to affect the future social and economic structure of Great Britain. It was, and still is, my hope that information thus gleaned would be of value to us in the formulation and execution of a program to meet, not only a shortage in houses quite similar in many respects to that which faced the British Government at the outbreak of the war in 1914, but to help us in grappling with our own inevitable problem of economic reconstruction.

The house problem which confronted England at the outbreak of the war does not differ in any material way from the problem which faced the United States when she entered the war in the spring of 1917. In both cases there existed a shortage of houses and dwellings which had, prior to the war, given rise to no little concern.

It is not of material value to consider the relative shortage in England and America at the time when each entered the war; and if it were of value, the actual figures representing a shortage are not available, for no accurate surveys of conditions had been made. We knew quite as well a year ago as England knew in 1914 that this problem under conditions of peace was one requiring drastic and immediate action.

During the first year of the war it was made manifest to England in a most emphatic way that effective measures were imperative in dealing with the ever-increasing seriousness of a fundamental problem of national welfare and stability. Modern warfare had shown, as Peace could not do, the vital part played by health and living conditions in industry, for it quickly became evident what part industry today plays in the winning of battles at the front. This compelled a complete acknowledgment that the first factor contributing to maximum production and national supremacy (a fact already acknowledged in many quarters but not recognized in positive action) is the living conditions of the worker.

In setting forth in detail the British method of dealing with this problem during the war, I shall go somewhat afield from the narrow confines of technical "housing and town planning," with their by-laws and legislative enactments, and consider the reasons why England had advanced so much more rapidly than had we in this field of activity prior to the war; and how it was that, when the war made the unforeseen demands upon England, she was able so rapidly and effectively to translate the will to do into actual accomplishment.

English and American Similarities and Differences

As I have already suggested, if we consider merely the numerical aspect of pre-war conditions in England and America, and likewise the similarity as regards the urgency of war's demands, the two problems appear to be practically identical.

But with these two points of similarity the identity ends. For as soon as one enters upon the field of technique and attempts to make a direct application of British methods to the solution of the American problem, one is immediately confronted with a long list of values which must needs be first interpreted and then translated into equivalent American usages and terms.

With our laws, broadly speaking, based upon British tradition, we have assumed that we could continue to borrow quite freely of England's modern technique of "housing and town planning." This does not follow. Due to striking differences in social and economic life, laws in our country which appear similar in form and expression to those of England have in practice totally different values.
It is because of the vastly greater need of interpretation and translation than the mere presentation of facts and figures that I shall refrain from burdening this study with financial details and numerical values relating to British pre-war methods of planning houses and towns; this aspect of the problem has been fully and thoroughly dealt with in numerous British publications and reports. For the same reason I shall make but slight reference to the corresponding phases relating to wartime technique, for during this latter period costs have been abnormal, and little of value would be gained by attempting a comparative presentation of the financial aspect of the problem.

The value of such a study as this rests not so much upon presenting what has actually been accomplished in England as it does in comparing the methods already much employed in England and America and in defining the relative accomplishments. For the same reason, while it is of value to study the structure of British law as related to work in this field, it is of far greater value to consider the nature of the forces which brought these laws into being in England and the determination of the relative value of these great national elements as factors in social and economic progress. What does this activity, when methods have been brought to a high standard of perfection, contribute to national economic stability? By what relative value is this activity judged by those nations which have made the greatest advance in this line of genuine national effort?

I shall endeavor to define the relative importance of this movement from the standpoint of British public opinion as expressed in British tendencies and accomplishments before the war, the development of those tendencies into a policy of state action during the war, and, last, but not least, the manner in which the planning of towns and houses are profoundly affecting the work of reconstruction—physical and social.

I shall also consider the scope of that program which has already crystallized in England and which looks directly toward the establishment of a National minimum as regards living conditions, in which a broad scheme of National conservation, education, “housing and town planning” is to play such an important part. I shall make reference to the processes through which the British nation has passed in a century, from the inexpressibly stupid indifference of that period known as the Industrial Revolution of a century ago into an acknowledgement of the rights of all to share in the values which accrue from labor and communal effort.

“Housing and Town Planning” involve far more than is suggested by the term. They involve more than is made apparent in the average publication relating to this subject. They deal with a problem which is technical only in its narrowest and most limited sense.

For the purpose of establishing a better understanding of what follows, it may be well to set forth the general scheme of statement. There will first be considered “The British Background,” comprising the general tendencies in British politics and social reform which led up to the period roughly covered by the last quarter-century. During this latter period a very remarkable program of social legislation developed, and several very important measures relating to Housing and Town Planning were formulated and put into effect by acts of Parliament. This period I shall discuss under “British Pre-War Methods.”

Having established in broad outlines the framework of British laws relating to this subject, and having considered something of the effect of their application in practice, I shall then consider how established policies were made use of in the house-shortage problem which followed immediately upon the outbreak of the war, together with such modifications in those policies as were made to meet wartime conditions. These will be considered under the heading “British War Housing.”

Following that, we must consider the new forces which have developed during the war and which will determine the solution of the problem of “Reconstruction” in England.

The application of British methods to American needs will be discussed under the general headings: “The American Background,” and “The American Problem.” Lest we drift aimlessly, there should be established at this time, in the light of European experience and American tendencies to drift, a definite goal of endeavor. Unless we consider the future from a broad point of view and establish policies to meet the conditions which will confront us at the close of the war, the effort which we are now expending will surely be of very little value.
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THE BRITISH BACKGROUND

Twenty years ago the average American traveler in England would have found comparatively little beyond things of an historic interest to arrest his attention. His itinerary would have taken him through the larger centers, the cathedral towns, a few villages of an unusual historic interest where the flavor of Old-World tradition still remained. These are to be seen today; the larger centers have but slightly changed; the historic places of interest for the most part remain, but they are dwarfed by the widespread evidence of a new development, for, scattered throughout England, and to a certain extent in Scotland, are unique and interesting twentieth century communities quite unlike the old villages, which, while recalling the old tradition of form, are decidedly unlike the twentieth century communities one sees in America. They mark the beginning of a new era.

The reason for this momentous transformation is derived from a background of experience and tendency; the contrast is too great to have been achieved by an architect or a school of architects, or a school of city planners; and those of us in America who have desired passionately a more integrated expression must fully acknowledge this, for these villages of England could not have been produced in America, notwithstanding the fact that it is quite possible for the American architect or town planner to project them upon paper.

The houses in a town, the arrangement of a town, the quality of life made possible in a town, serve as an infallible barometer whereby we may read the state of social, physical, economic, and moral development of a people. It is therefore of vital importance to us to find the underlying reason for our failure to produce examples comparable to these modern English communities. It is not enough to understand the elaborate legislative technique surrounding the British operations, nor will mere graphic descriptions of the schemes suffice. We must understand fully the forces which brought about this new condition in England in order that we may determine what phases of English methods are applicable in America. Above all, in this connection we must consider our capacities, for we shall find tendencies in American life and factors in our political and social institutions which must needs pass through a process of education similar to that of England before it is possible for us to apply even the most elemental principles involved in the success of British housing and town planning effort. That we have not been able to produce comparable results is a clear indication that our social institutions are not sufficiently developed, that our political mechanism is not properly adjusted, and that we lack unity of purpose. Unless we remedy this lack of integrated purpose we shall fail to keep pace with Europe in the fields of industry and finance, notwithstanding the terrific handicaps which, we assume, will be her heritage from the war.

But, to return to the question of cause—the background. All that I propose is an indication in outline, or rather, in silhouette, which will focus attention upon the fundamental difference between British and American directing factors or forces. Of these there are four points to be considered:

1. Conditions surrounding the ownership of land.
2. Conditions which obtained in Great Britain during the Industrial Revolution of a century ago, and which period may be said to have ended with the passage of the Reform Bill in 1832.
3. The remarkable social and political development in England during the last three-quarters century, which period might be said to have ended at the beginning of the present war, but during the latter part of which a remarkable list of social reforms were, by legislative enactment, put into effect—some of them affecting in a profound way England’s progress in housing and town planning.
4. Architectural tradition in Great Britain and the development of a group of town planners, architects, and engineers, keenly sympathetic and most active in the development of processes whereby the general tendencies of the day could be crystallized, so to speak, into material expressions of permanence.

Land Monopoly and Landlordism

It may appear paradoxical to say that development along the lines of integrated social effort has been hastened more rapidly in England by the fact that progress there has been more difficult. Our apathy has been due to the fact that conditions have not been so bad as to develop a united movement with a definite program of amelioration. We have been content to drift. We have failed to realize that we were contending with the same condition which has surrounded the ownership of land in Great Britain. There a landed aristocracy has been
determined to maintain the status quo; here the ownership of land has been passing steadily into the hands of fewer and fewer owners.

In England the profits from the great estates have been invested more and more in commercial and industrial enterprises, thus bringing about an intimate relation with a common interest in opposing social and labor legislation. Not only this, but with the ownership of land confined to a few whose main purpose in life had been to maintain their holdings and pass them on to the next in line, it has been exceedingly difficult to secure land for small-estate developments or for purposes of rural or urban housing.

Before any material degree of social reform could be obtained it was necessary to break down this great land monopoly. The effort to accomplish this resulted in many general legislative enactments which have been most advantageous to housing and town planning reforms. But these measures in nowise solved the problem. The problem of cheap land still remains. And, as clearly shown by Mr. Whitaker in Chapter III* of this series, we now see that we have arrived at a condition which parallels that of Great Britain. By regulations made under the Defense of the Realm Acts, the British Government insures that the home-building operations adjacent to munition plants shall not be burdened by the unearned increment. That is to say, when it becomes necessary to build more homes, the land adjoining an existing development can be taken at its pre-war value, and not at the higher value which has been added to it by the initial home-building operation. Unless this be done, each succeeding operation becomes more costly, with a corresponding increase in rent and a diminution in the size of house and lot, and thus we endlessly repeat the vicious cycle of congestion. Reference to this will be made later, for it is the most important factor of all, looking toward national well-being.

In America we are now experiencing the same profound change that resulted in England from what is termed the "Industrial Revolution." It was during this period in England that we witnessed the very rapid changes which transformed an agricultural society into one of industry. We see the rapid settlement of a vast working-class population outside of the limits of the then existing small towns, the development of industrial centers in which the living conditions of the workers were wretched beyond words to express. We see also the poverty and utter helplessness of this vast population. In contrast to this condition of the poor, witness the rapid accumulation of wealth and capital by a small group of individuals who accepted the wretched condition of the worker and the state of inequality as a condition actually contributing to national prosperity. We see how it was that unfair laws were framed and how unfairly justice was dispensed, and by what unfair means was order obtained. We also witness the very slow awakening of the industrial laborer to the unfairness of the existing conditions, and we witness also the slow and labored birth of a new spirit. It is this new spirit brought into being by the intolerable conditions imposed by our economic system, the utter indifference of the rich to the conditions of the poor, which developed into the directing forces of the latter half of the nineteenth century.

New Forces at Work

Coexistent with the spirit of revolt on the part of the laborers against these intolerable conditions, there developed a most remarkable and profound change in the entire fabric of society, not confined to England alone, but characteristic of western Europe, Australia, and, to a limited extent, of America. This change was particularly marked in England, and something of its nature must be understood before it is possible to grasp the full significance of the housing and town planning movement, for this latter is not a small, isolated movement, but a part of a world tendency which is sure to accumulate force and power for years to come. This is expressed by the recent tendencies in social politics and the resulting legislative enactments of the British Parliament, but its scope, however, includes an almost limitless field of activity and interest. We can no more escape this movement than we could have escaped our entrance into the war.

To consider the nature of this world movement may seem a needless digression from the topic under consideration, but if it is our hope in

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America to move forward after the war, we must recognize this force which is pushing forward with continuous and ever-increasing acceleration. Ours must be a program of reconstruction having as its basis a full recognition of the great change which has taken place during the last century and which has been tremendously accelerated by the present world conflict.

In the essay "Toward Social Democracy,"* by Sidney Webb, is traced the silent revolution which has taken place in ideas during the last three-quarters of a century and which brought us to the state of flux in which the western world found itself at the outbreak of the war. It is pointed out how little appreciated or understood is the great change which has taken place in England and the purpose of the essay is to throw greater light upon the "persistent stream of tendencies" which have brought about this change and to show more clearly the direction of the course of this world movement from the point of departure.

The New Application of Government as an Association of Consumers

It is pointed out how, a century ago, before the reform of municipal corporations, men had for centuries grouped themselves on the basis of their occupations as producers; how this old grouping of men as producers stood stolidly in the way of social reform; how the slow beginnings of a different grouping took place when local bodies with broader functions were formed in municipal government, the purpose of which was to provide for the needs, not of a special group but for the needs of all of the local residents; and how it followed that these new groups—local governing bodies—by nature of their interests and duties gradually took on the character of an association of consumers. It is shown how the form of administrative government has expanded during the last century as a result of this new concept of its function; how it is that we have become, in a way, accustomed to this change; how we fail to recognize the extent of the service which the Government actually renders—which service is organized upon the theory of primarily benefiting the public—the consumer, who is likewise benefited as a producer.

It is significant that these functions of government which we accept as a matter of course, and which form such a large part of the activities of the Government, are almost wholly the creation of the last century. We do not appreciate to what extent this new idea has been developed; but one has only to examine in detail such activities as those related to communication and transport, public health, land improvement and development (urban and rural), conservation, education and recreation, banking, insurance and exchange, the production of light and power, housing, agriculture and forestry, or mining, to realize to what extent this concept of government as an association of consumers has developed. Beyond this aspect of governmental activity one finds a tendency, particularly emphasized in England, and expressed in the powerful cooperative societies. America has but slight knowledge of the extent of this movement nor the power which it wields in Europe. Even in England the significance of this movement is not generally recognized; there the middle and upper classes scarcely grasp the import of these organizations. But they are none the less powerful; for so great a shifting of the control and management of the production of commodities by which men live cannot fail to produce far-reaching social and economic changes.

As a result of this tendency toward the collective organization of consumers, one finds in England, during the last quarter of a century, a series of legislative enactments which are destined within a few years to change utterly the general aspect of British government and in turn alter the entire aspect of British life and British physical environment.

Outstanding among the many measures one notes the Acts relating to workmen's compensation, trade unionism, child welfare, old-age pensions, the unemployed, sweatet labor, the housing and land problem, national insurance, and the "Lloyd George Budget." While these are all interrelated and part of a single program of social amelioration, our interest must be confined but to a single phase—the housing and land problem which we will consider under "British Pre-War Measures."

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Attending the gradual change in this concept of government from that in which its two principal functions were the dispensing of justice (a limited concept as we now see it) and the conduct of war, to that new concept in which the central idea of government is an organization of consumers, there went on a gradual and interesting change in the form and structure of government itself. Especially is this true of municipal government in Europe and particularly in England. Here we see a development which offers a striking contrast to our methods—a development which those who are interested in housing and town planning should study most carefully, for a knowledge of British municipal government is necessary to an understanding of housing and town planning in Great Britain. This subject, however, will be left for a more detailed treatment under "British Pre-War Methods."

The Age-Old Problem of Housing

Thoroughly to grasp our problem, we must realize that the housing of workers is not a problem peculiar to ourselves or a result of war; it is, and for generations has been, a Western World problem growing out of industrial systems, and practically the entire Western World, with the exception of America, has recognized it as either a municipal or a federal problem demanding for solution more than restrictive legislation. We must be brought to recognize that the countries of Europe have had this problem to contend with for a much longer period and that their present methods represent the result of a long and painful period of experimentation. We must also recognize that there is a world tendency toward the amelioration of the conditions surrounding workmen; that the present tendency is born of a practical experience which has shown the tremendous value of physical environment upon industrial production. No longer is welfare work confined within the factory or to the region immediately adjacent; now it extends to the housing of workers, and with the housing of workers the inclusion of the amenities is given a dominating emphasis.

However vaguely we may grasp the problems confronting us in the days of reconstruction to come, we are absolutely certain of these things: that nation which is most fully organized and wherein every element of its social and economic structure is conserved—that nation in which the vision of a great social and economic democracy is expressed in the broadest program of national organization and conservation—that is the nation which will achieve national prosperity because it puts the welfare of the whole above the welfare of any individual or group. There is no other way to national stability.

Now is the time, as never before, when we must scrutinize our ultra-individualistic tendencies, our relative lack of accomplishment along broad social lines of coöperative undertakings, our trembling fear of governmental control, and, above all, or materialistic aims. For these tendencies, unless overcome, will inhibit us absolutely from keeping pace with those nations whose suffering and loss have been much greater than our own, but who, through the integrated effort resulting from war, have learned to realize something of the meaning of social democracy.

BRITISH PRE-WAR METHODS. I

For some time past, we, the architects and the town planners, have taken the position that our lack of success must be due to a want of appreciation of esthetic values on the part of the public, to the dominating commercialism of our day and people, to an excessive spirit of individualism; and we have been, as a profession, content with that exceedingly superficial answer.

We have endeavored to awaken a public interest in housing and town planning, first, through the spectacular and later the beautiful; then, as the pendulum swung, by a narrow financial assessment of its worth. We have striven hard to promote better housing, primarily by restrictive legislative enactments and through our small-house competitions.

Notwithstanding these activities and the vast amount of propaganda, we have completely failed to bring about anything which approximates a national solution of this problem. Few have acknowledged the reason for our failure.

When you discuss the problem of the housing of workmen with an architect, a social reformer, an engineer, or a corporation with whom the question has become a serious factor in the output of a factory, the discussion revolves about the type, the size, and the cost of houses—the financial aspect and the problem and method of construction. These are apparently in
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America the dominating factors to be considered and dealt with.

England’s Advanced Position as to Policy and Public Opinion.

But, on the other hand, when you consider this same problem in its various aspects with Englishmen in parallel fields of activity, you very soon discover that the problem is viewed from the angle of a general policy in which they make constant and repeated reference to Local Authority and Local Government Board. They think of the problem in terms of these authorities and the functions exercised by them.

For it is these two bodies that exercise most important powers and functions in connection with housing and town planning operations in Great Britain. This constant reference to these two bodies is a little confusing to one who attempts to translate British methods into American terms. We may understand that what is represented by the term “Local Authority” corresponds in a very general way to our own executive and legislative municipal bodies; but we can find nothing in the structure of our government even to approximate in function and authority the British Local Government Board.

While the Local Authority occupies a position which in a way corresponds to that held by the “government” in our municipalities, yet the method of electing members to the Council, the mayor, the aldermen, the councillors, the appointment of officials, their terms of office, the powers which the authorities derive from their charter, from Parliament, from the Local Government Board, and their methods of administration, differ so widely from conditions surrounding municipal government in America that it would be futile to assume that similar legislation could be applied in America without a material modification of government itself. Broadly speaking, the greater trust in which municipal government has been held in Great Britain since the passage of the Reform Bill in 1832 has not only broadened its powers as an effective instrument working for the common good, but that trust has made government far more effective in meeting the actual needs of a democratic community. To develop such a trust is one of our prime duties in loosening democracy from the political grip which now strangles it.

The Broad Scope and Powers of the Local Government Board

Interesting as is the work of the Local Authority in Great Britain, the work of the Local Government Board is still more interesting. An understanding of its relation to Parliament and, in turn, to the Local Authorities is necessary, and I therefore make reference to *“The Government of European Cities” wherein the subject is set forth with particular reference to American readers.

The Local Government Board is, in a sense, a part of the ministry. It derives its power from Parliament, exercises control over the work of Local Authorities, and has a wide range of sub-legislative powers. “It may issue to the Local Authorities a General Regulation which is binding throughout the whole country, or an order which affects a single union only.” “It is the central supervising authority in all matters relating to local sanitation and the care of public health.” “It may even in some cases compel the Local Authorities to provide water-supply or appoint medical officers or improve the drainage system.” It should be clearly kept in mind “that the Local Government Board may issue orders only upon the express authority of Parliamentary statute.” Its legislative powers are delegated to it by Parliament solely for the purpose of making sure that the statutes of the realm shall be accurately interpreted and applied in the local jurisdiction.

From the standpoint of housing and town planning, the jurisdiction exercised by the Local Government Board in vetoing or amending ordinances and by-laws made by Local Authorities is very important. This is a vital prerogative, and it has operated to secure a closer approach to uniformity in municipal rules relating to public health and welfare, for the Board has adopted the practice of publishing “model” by-laws which the Local Authorities find it safe and advantageous to follow.

Compare the custom in America, where a municipality drafts all sorts of building laws and ordinances, often without the aid of any expert knowledge, with the British custom of having such local by-laws prepared by the experienced and well-paid experts of the Local Government Board in London. Not only does

this minimize the chance of such laws being successfully attacked in the courts, but it insures that the laws shall express both knowledge and experience.

A danger may be cited in the power of the Board to disallow or amend an act of Local Authority. There is, as a matter of fact, no such danger, for the Local Government Board may not thus interfere, "except in the event that the local ordinance is unlawful, and never because it may appear to be unwise or inexpedient."

"So long as the Borough Council keep within their legal powers, they are free from interference."

"More important than the legislative authority of the Local Government Board are its administrative powers." These powers exercised in matters relating to public health and sanitation and the raising of funds, have a vital relation to the question of housing and town planning.

**"Here its influence is at once apparent; for, as will be seen a little later, the boroughs are required to secure its approval of their borrowing projects, and the board, in granting approval, may impose various conditions as to the manner in which the borrowed funds may be applied. If, for example, a borough council decides to adopt the permissive provisions of the acts relating to the housing of workers, and to undertake the expropriation of lands for the erection of municipal tenements, it must get the sanction of the Local Government Board before it may borrow any money for the undertaking. Before granting this permission the board will, through one or more of its officers, conduct an inquiry into the merits of the project, and, if it gives its consent, will usually require the scheme to be carried out subject, in many important respects, to its further approval.

"It will undertake to see, for example, that the new dwellings erected by the council provide for the housing of as many persons as have been displaced, that the buildings are of proper character, and that the various other ends contemplated by the statutes are duly secured. Many other so-called 'adoptive acts' have given broad powers to the boroughs, to be exercised by them subject to the supervision of the Local Government Board; indeed, the existence of this board as a suitable supervising authority has prompted Parliament to intrust borough councils with much authority which it would probably never have granted them to be used without supervision. If the boroughs ask for powers which seem in general to be desirable but which might easily be abused, the usual parliamentary practice has been to grant the privileges asked for but to make the Local Government Board responsible for seeing that they are not misused. It should be emphatically declared, however, that this body is the balance-wheel, and not the engine, of local administration. It does not drive the machinery of borough government, for this function rests with the borough council; but it does see that the machinery is driven smoothly and with due regard to the principles underlying the legislative mechanism. The initiative, the elaboration of projects, and the immediate supervision of all undertakings must be supplied locally; it is for the board to keep the wheels in their proper grooves."

Beyond these sublegislative and executive powers the Local Government Board performs a function which is perhaps still more important.

**"Where the Local Government Board has no right of interference, and where its approval is not asked by local authorities, it may tender its advice for what it is worth; and this it frequently does. On the other hand, any local authority is entitled to seek counsel from the board and its expert staff, a privilege of which the officials of the boroughs freely avail themselves, not infrequently in order to find a means of extricating themselves from serious legal or administrative dilemmas. John Stuart Mill has somewhere remarked with great truth that 'power may be localized, but knowledge, to be most useful, must be centralized.' At the headquarters of the Local Government Board is accumulated a vast fund of the most useful knowledge concerning every phase of municipal administration; a wealth of statistical and other data is there on file, and some of the best legal, financial, and technical skill in England is at hand to interpret it. When the wording of a new statute is not clear to a town clerk, when a borough treasurer gets his accounts tangled or fails to agree with his auditors on any point, when a committee of the borough council is at a loss to know how it should proceed with any project—in a word, when any local authority wishes to get expert and reliable advice without having to pay for it, the first and logical recourse is to Whitehall.

"Whether the question relates to the extension of a water service, or to the purchase of supplies for a local hospital, or to the distribution of duties among officials, or to the wrangles of councillors over some rule of procedure, it is the duty of the Local Government Board to give its counsel or advice whenever it is asked for. Not infrequently, indeed, the matter at issue is so complicated that the board finds it necessary to send one of its experts to make a personal inquiry before it feels justified in giving its opinion."

In the field of supervision over local finance, such as the authorization of loans for a great variety of purposes, in which is included such projects as the development of a town planning scheme or the development of a group of working-class dwellings with their amenities, the Local Government Board possesses a further function beyond those referred to, which is of vital importance to the British program of housing and town planning. In America there
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is no governmental body which exercises in this field a similar function.

One other phase of the work of the Local Government Board remains to be noted:

""In the performance of these varied functions it is, of course, only natural that the Local Government Board should find it necessary to employ a large staff of officials. The total number of these now runs well up into the hundreds, including sanitary engineers, medical officers, inspectors of poorhouses, workhouses, auditors, legal experts, and many similar officers embodying a high grade of specialized skill. All these officials are appointed by the crown on recommendation of the president of the board; they hold office during good behavior and efficiency; they are members of the national civil service; and they receive liberal remuneration. Secure in the tenure of their posts, responsible to the central government alone, and hence having no local interests to serve, these officers are able to go about their work in an unbiased frame of mind, and hence have earned a general reputation for impartiality and fearlessness in their recommendations.

""There is, on the other hand, no doubt that the Local Government Board is not popular with the local authorities and that many of these latter would welcome a diminution of the board's supervisory jurisdiction. Were the officials of the board susceptible to partisan influences, the whole system of central supervision would lose its chief prop, which lies primarily in the efficiency and integrity of the officers who exercise the guiding authority. Englishmen would scarcely tolerate the supervision of their local government by any officer who, like the French prefect, attempted to combine the duties of an administrative official with the activities of a party agent."

BRITISH PRE-WAR METHODS. II

With this rather general statement relating to the drift of social tendencies during the last century and the significance of certain elements in the structure of British municipal government, we may proceed to a study of the specific acts of legislation and the British pre-war technique of housing and town planning. It may be well to repeat that the conditions in Great Britain were such during the nineteenth century that it required no exaggeration of statements, to borrow the title of Mr. Aldridge's book, to make out an excellent "Case for Town Planning."

Legislative Phases

Specific legislation in this field may be said to have been initiated in 1846, and the passage of a series of Public Health and Sanitary Acts from that day to 1875 may be said to have been in the nature of first steps leading to the passage of the Housing and Town Planning Act of 1909.


The Public Health Act of 1875 empowered Local Authorities to make by-laws relating to such matters as the width of streets, the sewage of the same, construction of new buildings, the space to be provided about buildings, and to certain related sanitary conditions. It is important to observe, in connection with this act and the resulting regulations known as the "model" by-laws of the period, that it resulted in what is now known as "the new slum." It was a step, it is true, in advance from the chaos of the days preceding; but it was at the same time responsible for the endless rows of monotonous brick dwellings having nothing but a paved street in front and an ugly yard behind. There were no amenities resulting from these by-laws, and the fields about British cities became rapidly covered with these stupid habitations, quite similar, though lower in height, to what we see growing up at the present time in and about our American cities.

The sort of structures which are permitted in the outlying districts of New York under the new districting regulation, passed only last year, are quite as bad, if not in many respects worse, than the British "new slum" and against which the Housing and Town Planning Act of 1909 was directed quite as much as it was against any other single condition which then obtained.

Garden Cities

Certain other events which resulted in the passage of the Housing and Town Planning Act of 1909, and which were material factors in stimulating housing and town planning progress, were the development of Bourneville by Mr. George Cadbury, the foundation of Port Sunlight by Sir Wm. Lever, and the inauguration of the garden city movement through the publication of that practical dream of Mr. Ebenezer Howard, "Garden Cities of Tomorrow," which made a strong public appeal and awakened the entire nation to possibilities of which the people had not dreamed.

The Garden City Association was formed; studies of continental housing conditions were made; several associations for carrying on educational work were organized; schemes for garden suburb planning were launched by private and cooperative companies. In 1904 the Trades Union Congress took up the work and, during the latter part of the period referred to, forces
too numerous to mention became allied with the movement, which ended in the organization of a Deputation of the National Housing Reform Council to the Government in 1906 and the ultimate passage of the Housing and Town Planning Act of 1909.

The Tenement Must Go

In view of the general tendency in America at the present moment to accept the tenement house as a permanent institution, it may be well to note that as a result of British experience from 1875 to 1909, during which time sanitation reformers accepted the tenement and encouraged philanthropists to erect buildings of this type, public opinion swung around completely to a strong opposition against this and to an equally strong advocacy of the small dwelling. Everywhere the tenement is now condemned, except as a mere temporary expedient where special problems exist as, for example, in certain areas of London and Liverpool. Even in such localities the tenement is considered a temporary element, and the program of progress in England looks forward toward its complete eradication.

The Beginnings of England’s Program

Twenty-one years ago the deputation referred to presented to the British Government a comprehensive program of housing and town planning reform which, I submit, might serve the same purpose in impressing our Government. As regards its scope, constructive suggestion, and presentation of the vital needs of the day, it should be applied by us with but slight modifications, for I believe firmly that unless we adopt some similar comprehensive program, we shall very soon find ourselves face to face with a problem which will require even more drastic action.

After calling attention to the failure of the acts relating to the better housing of workers, which acts, it must be admitted, were broader in their scope and far more effective than are those of a similar nature now in existence in a few localities in the States, and after pointing out that the existing slums in the British cities would not be removed during the coming century at the then-existing rate of progress, the Deputation asserted that the causes for such failure were to be found in:

(a) The scarcity of the supply of suitable dwellings to which the dwellers in overcrowded and insanitary houses can remove.

(b) The imperfect character of existing powers relating to the clearance of unhealthy areas, and the repair or destruction of insanitary houses.

(c) The lack of efficient municipal powers to secure the proper development of new housing areas and the building of suitable houses.

(d) The failure of Local Authorities to fulfil their present health and housing responsibilities.

(e) The insufficient machinery for securing effective inspection, control, and stimulus by the Central Authority. [It is significant that the traditional attitude toward land in England had not then undergone the change which now has taken place so rapidly, and thus the prime governing factor in house-shortage and congestion was almost wholly ignored.—F. L. A.]

But do not these statements recall similar existing conditions in the United States?

Among the specific suggestions looking toward reform should be noted the following statement:

*The reforms we advocate are as follows—*

I. Local Authorities Should Be Stimulated to Carry Out Their Duties Under the Health and Housing Acts:

(a) By conferring a power of initiative and stimulation on any four persons in the district, not only with regard to nuisances and unhealthy dwellings, but also in respect of any necessary modifications of by-laws (as well as the provision of new dwellings, as in the Irish Labourers’ Acts).

(b) Thereshouldbe a statutory duty on all Local Authoritiesto appoint properly qualified medical officers and sanitary inspectors to visit the various districts, to advise Local Authorities as to the best methods of dealing with housing improvements, to report on cases of neglect, to temporarily supersede, if necessary, councils continuing to neglect their duties, and to carry out the necessary work at their expense.

(c) Special public enquiries should be held by the Local Government Board in certain selected districts with the highest death-rates.

II. There Should Be Amendments of the Public Health Acts to Secure That:

(a) Compulsory house-to-house inspection in every part of every district should be made by every Local Authority, instead of the intermittent or partial inspection now generally made;

(b) There should be a statutory duty on all Local Authorities to appoint properly qualified medical officers and sanitary inspectors to give their whole time to their duties, and such officers should not be removable except with the consent of the Local Government Board.

III. Closing and Demolition of Unhealthy Dwellings:

Local Authorities should be empowered to make a closing order which should take effect unless an appeal Planning Schemes. By Henry R. Aldridge. London, 1915. The National Housing and Town Planning Council.


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be made within fourteen days to the local magistrates, and if the house be not made fit for human habitation within four months of the date of making the order, demolition should automatically follow without further proceedings.

IV. Clearance of Slum Areas:

The Deputation consider that the owner of property which is dangerous to human health should be treated in the same way as the owner of diseased meat.

V. The Creation of Model Suburbs:

Local Authorities should be fully enabled to purchase and hold large estates in land on their outskirts and to deal with such land on similar lines to those adopted at Bourneville, and, to secure this end, Local Authorities (subject, in the case of parish and district councils, to the consent of the higher authorities) should be allowed to acquire such cheap and suitable land in large quantities to use, or hold, or lease, without necessarily specifying any immediate purpose or detailed scheme.

VII. Compulsory Purchase of Land:

The procedure for compulsory purchase of land should be shortened, cheapened, and simplified. It is further suggested—

(a) That the basis of any compulsory purchase of land required by public bodies should be the capital value of the land as declared by the proper valuation authority, or by special commissioners, as in the case of the income tax (subject to an additional exceptional allowance of a pre-determined and limited extra percentage for severance and other special circumstances).

VIII. Town and Village Development Commission:

(a) A central commission, or a special department of the Local Government Board with extensive powers as to land, housing and transit, should be established to consider the main conditions of growth of the various districts in the country and, where the county or borough area is not suitable, to map out what may be called "Scientific Areas," for each of which there should be subsequently established a statutory committee consisting, as to a majority, of representatives of the Local Authorities, and, as to the remainder, of experts nominated by the Central Commissioners.

IX. Rural Housing, Small Holdings, and Other Village Developments:

Local Authorities and these bodies in suitable districts should be empowered and assisted

(a) To promote the proper development of villages by encouraging the provision of adequate and cheap means of transit, small holdings, and cooperative agricultural societies; and

(b) To take definite action to secure that proper schemes of colonization of certain rural districts shall be carried out.

X. Town-Extension Planning:

Local Authorities, or groups of Local Authorities, should be empowered to make plans for town extension dealing with the development of the land on the outskirts and prepared in good time so as to meet future needs, especially as to main roads, open spaces, and sites for public buildings or workmen's dwellings.

XI. Cheaper Money:

(a) The Public Works Loans Commissioners should lend money for housing purposes up to eighty years to public bodies, and, on the recommendation of the Local Government Board, to the extent of not more than 80 per cent, to recognized societies of public utility building on municipal land, at the lowest market rate at which the Treasury can raise money at the time.

(b) The restrictions which prevent the funds of savings banks, charities, and ecclesiastical bodies from being invested in housing schemes should be removed so long as this can be done without detriment to the funds.

XII. Revision of By-laws:

(a) By-laws should be strengthened in the direction of securing more open spaces and larger gardens when new housing estates are developed. There should be a clause prohibiting, except under special conditions, the building of more than a certain number of houses or rooms per acre, according to the nature of the district.

(b) By-laws as to new roads should make provision for a new and less expensive type of street, when used solely for access to groups of cottages, by requiring only part of the roadway to be made up.

(c) By-laws as to the structure of walls and buildings should be revised in the direction of avoiding unnecessary expense, while encouraging the use of new materials and better methods of construction.

While the method of executing these proposals does not exactly apply to American conditions, there are none among them which do not offer most constructive suggestions. As a result of this effort upon the part of the Deputation, the growing public interest in the question, and the able leadership of Mr. John Burns, Parliament passed the Housing and Town Planning Act of 1909.

This Act is too detailed and too local in its provisions to be inserted, but it is absolutely essential to set forth a summary of its more important provisions.

*A Brief Summary of the Town Planning Powers and Duties of Local Authorities Under the Act of 1909.

The Scope of a Town Planning Scheme

Local Authorities may, with the permission of the Local Government Board, place in hand the preparation of Town Planning Schemes governing all new building developments in their areas or adjacent to their areas, thus securing that the faults of bad planning in the past shall not be repeated in the future. This power to prepare Town Planning Schemes
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The objects of a town planning scheme are defined as "proper sanitary conditions, amenity and convenience," and provisions relating to these objects may be inserted in a town planning scheme.

The Securing of Proper Sanitary Conditions and Amenity

In regard to proper sanitary provisions and amenity, Local Authorities, in preparing town planning schemes, may include provisions in respect of the following:

1. The limitation of the number of dwellings per acre through the area included in the scheme;
2. The reservation of certain areas for residential purposes;
3. The defining of shopping centers and the limitation of the erection of warehouses and factories to certain areas;
4. The fixing of conditions governing the height and character of the buildings to be erected in various parts of the area included in the scheme;
5. The fixing of a definite proportion between the site actually covered by a building and the area of garden or other form of curtilage to the building;
6. The granting of power to the Local Authority to purchase land for open spaces at prices to be defined in the scheme itself (or in agreements added thereto) or to accept gifts of land from owners, such land to be dedicated to the use of the public;
7. The fixing of building-lines and the requiring those building houses to set back their cottages (at such distances as may be prescribed in the scheme) to secure the provision of proper air-space and sunlight for each home;
8. The use of private open spaces and the preservation of these and of objects of national interest or natural beauty;
9. The framing of regulations requiring owners of private gardens, allotments, or private open spaces, to keep them in proper order;
10. The prohibition of advertisements which may interfere with the amenity of the district;
11. The forbidding of the erection of houses on unsuitable sites—e.g., swampy land;
12. The fixing of minimum sizes of habitable rooms;
13. The variation of conditions of building construction.

By a clause specially added in the committee stage, the giving of compensation to owners in those cases where Local Authorities, with the approval of the Local Government Board, place limits in regard to the number of buildings per acre, the height and character of the buildings is guarded against.

This power is of especial value and has been described as worth the whole of the rest of the powers of the Act taken together. In effect, the possession of this power enables Local Authorities to secure that, as new areas are developed, the provision of gardens and open spaces shall be such as to secure the health and amenity of the district without placing a financial burden on the community to secure this desirable end.

The Power of Local Authorities to Develop Estates and Make Roads Under Town Planning Schemes

In regard to convenience, Local Authorities may, under town planning schemes, frame wide and varied provisions to secure that, on the one hand, the growing traffic needs of their districts shall be adequately met, and that, on the other hand, where relaxations of conditions as to road-width can be made with safety, the cost of road-making shall thus be lessened.

The preparation of town planning schemes gives, in effect, to Local Authorities invaluable opportunities of studying the traffic needs of their districts and of substituting, for the present 36 feet and 40 feet standards of road-width, other standards comprising, at the one end of the scale, the arterial road of from 60 to 120 feet in width, and, at the other end of the scale, the short residential road with only 20 feet of constructed road, but with a distance of from 60 to 80 feet between the houses on opposite sides of the roads.

In other words, under a town planning scheme, a Local Authority may provide for the construction of not one, but several, types of road, including:

(a) Main arterial roads from 60 to 120 feet or more in width;
(b) Secondary streets from 40 to 50 feet in width;
(c) Short streets, not taking through traffic, with widths of 20, 24, and 30 feet.
(d) Quadrangles served by access roads of only 7 feet in width.

Local Authorities may themselves undertake the development of estates by purchasing land, making roads, and leasing the sites or building cottages themselves. This power is, however, subject to certain limitations. These limitations are dealt with in Part II.

From this short analysis it will be seen that, taken together, these powers may be regarded as giving to those Local Authorities who realize the need for exercising control over the processes of town and village growth, powers of a most valuable kind.
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Such, in brief, are the major provisions of this Act.

Before leaving the subject, it should be noted—and this is a point of utmost importance—that in the Act it is stated that the Local Government Board may prescribe a set of general provisions (local rules or by-laws) or separate sets of general provisions adopted for areas of a special character. Up to the present time the Local Government Board has not deemed it wise to issue a set or sets of general provisions, an exceedingly wise policy. Apparently this method of procedure leaves to the process of evolution the determination of the details which should be incorporated in a “scheme.” The work which has thus far been accomplished by the several Local Authorities and that which will follow will greatly serve to crystallize, through trial and experimentation, the basis of the general provisions which the Local Government Board will put forth.

BRITISH PRE-WAR METHODS. III

So much has been written about Port Sunlight, Bourneville, and Letchworth that one hesitates to repeat. Yet it seems vital to an understanding of the situation in Great Britain to consider certain aspects of these two examples of housing and town planning as typical of other developments in presenting a complete picture of the British pre-war technique. It was the garden city movement which played a vital part in the evolution of housing and town planning legislation just considered, and it is this movement which is certain to play an even greater part in the social and economic development of England after the war.

Coöperative Enterprise

By way of explanation to the American reader, it should be made clear that there is a wide and vital distinction in England between what is known as the “garden city” and the “garden suburb.” The one refers to a community wherein are found homes for all classes, and for industry, with agricultural land sufficient to maintain the inhabitants in nearly all the essentials, and the amenities; while the garden suburb, as the name implies, refers merely to a collection of homes, small shops, and community buildings. Letchworth is a garden city; Hampstead is a garden suburb.

Letchworth

The social and financial organization of these communities can be most clearly stated by quoting directly from a summary by Mr. Edward S. Culpin in his book on the “Garden City Movement up to Date.” Of Letchworth he says:

“The estate, of now 4,566 acres, is the property of First Garden City Ltd., a company with a dividend limited to 5 per cent cumulative, whose memoranda and articles embody the root principles of the movement. The town is situated thirty-four miles from London on the Great Northern Railway, just beyond the old market town of Hitchin. It is served also by the Midland Railway from Hitchin, and being bounded by the Great North Road traffic facilities are excellent.

“First Garden City Ltd., being the owners of what was practically virgin land, have had themselves to provide the necessary equipment of the town, which, in the case of the garden suburbs, is derived from neighbouring towns. Thus the company own the gas, water, and electric light undertakings; they have made the roads; they provide and maintain the sewers and the sewage disposal works; and they have organized such facilities as an omnibus service, swimming bath, etc., to encourage the growth and amenities of the town.

“Besides the Bye-laws of the Hitchin Rural District Council, under whose jurisdiction Letchworth is, the company has its own building regulations and its surveyor exercises some supervision over designs and specifications to ensure proper conditions being observed. The maximum of houses allowed to the acre is twelve, but as the size of the house increases so does the area of the plot, so that all over the building area (which is 1,200 acres only, the remainder being agricultural and park land) there will probably be an average of not more than half that number. An ultimate population of 30,000 people is provided for on the town area, or 35,000 including the agricultural belt. Thus, over the whole of the seven square miles of Garden City, there will be an average of only nine people to the acre, compared with the two or three hundred still allowed by the Bye-laws of many towns.

“The agricultural belt of 3,000 acres marks a fundamental difference between Letchworth and every other experiment on garden city lines, and, indeed, distinguishes it from every other town in the world. Many places have belts or girdles of green, but none has a definite provision such as this; and as in the town the way is pointed for a new tradition of development, so it is hoped that the agricultural belt will help in the solution of some of the rural problems. A good deal of attention has been given to small holdings, especially in the direction of milk production, and recently an exhaustive inquiry has been made with a view to assisting in this development.

“An important side of the Letchworth experiment, and indeed the crucial test, is the development of its factory area. If Mr. Howard’s theory had not been sound,
manufacturers would not have gone to Letchworth and the place would never have developed. There are now some thirty industries established in the town, and several of these have been very considerably extended. The trades represented include engineering, printing, embroidery, bookbinding, photographic utensils, joinery works, pottery, weaving, commercial motor engineers, motor car makers, metal works, organ builders, seed and implement factories, scientific instrument makers, colour printers, corset makers, etc. There are five building companies working on the estate. An interesting feature is the cooperative house 'Homesgarth.'

"The town is complete with every facility for commerce, trade and social life. Its residential facilities are excellent, and as a place of residence alone it is being much sought after. The industrial population have here advantages which have been possessed by no other town in the country. Its housing is good, the gardens are ample, and there are many opportunities for recreation and social life. Church life and education are well provided for. There are several public halls, and the arrangements for water, lighting and sanitation are as near perfect as they can be. Its scope is infinitely greater and presents the solution of more serious problems than any suburb of a town can possibly do."

"Letchworth has been described as England’s healthiest town. Both with regard to the general death-rate and infantile mortality the figures are far below any other place in the country."

Hampstead

And of Hampstead garden suburb he says:

"The growth of the Estate has been phenomenal. Since the first sod was cut on May 2nd, 1907, 1,550 houses have been built and occupied, with an estimated population of 5,000 people.

"The value of the houses and public buildings on the Estate is estimated at £800,000, representing, with the land and roads, a capital value of over £1,000,000, while the ground rent secured amounts to no less than £11,330 out of a total estimated rental of £15,000. Dividends at the rate of 5 per cent per annum on the ordinary shares have been paid during the past four years.

"The end of the first portion of the Estate (240 acres) being in sight, the Directors have acquired another 112 acres of land from the Ecclesiastical Commissioners, while the Copartnership Tenants Limited, who have been responsible for the development of a large portion of the original area, have taken up 80 acres of the added portion and have also taken 300 acres direct from the same authorities, making a total of one square mile of land, the whole of which will be planned by the Hampstead Garden Suburb Trust Ltd.

One must include as a most important factor or element in the development of both the garden city and the garden suburb, the Public Utility Society where the central idea is the substitution for the personal ownership of the individual home without any responsibility for the condition of the surrounding estate, of the principle of ownership of shares in a company, these shares carrying the right of tenancy of the house and the acceptance of definite collective responsibility for estate management.

Finally, these results are made possible by the fact that loans may be obtained from the Government for a long period of years at a rate approximating that which the Government has to pay.

THE WAR PROGRAM: LAND

The foregoing, in very broad outlines, is the background against which we must examine the methods of industrial housing conducted by the British Government during the war. As an essential part of this background, one might naturally include conditions surrounding the acquisition of land; but, inasmuch as land for industrial housing purposes was acquired during the war under the authority of the Defense of the Realm Act, it seems best to consider the land question under the heading of the "War Program."

Prior to the war, there were two ways through which land could be acquired by the State, namely, the Prerogative and the Defense Acts and the Military Lands Acts. These two Acts, however, are not often used because the machinery is cumbersome, and, in the case of the second, the methods of assessing compensation is extremely favorable to the owners of the land. These need not concern us for the moment, for it was under the Defense of the Realm Act and the regulations made thereunder that land has been almost exclusively taken during the war. Under this Act, His Majesty has power, by order in Council, to make regulations "for securing public safety and the defense of the realm." These regulations, when made, have the same effect as if they were a part of the statute, provided, of course, that they are within the powers conferred by the statute. A detailed statement of purposes for which land could be thus taken is set forth in the Defense of the Realm Consolidation Act of 1914. It is important to study the Acts themselves and the regulations at present in force. These are published quarterly in the "Defense of the Realm Manual of Emergency Legislation." Regulations 2 to 5 enable the Government, where necessary for the purpose of the defense of the realm, to take land or
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buildings for military or naval purposes, or for the purposes of agriculture and the provision of food. It is important to note that no compensation is mentioned in any of the Defense of the Realm Acts or the regulations.

Compensation to Owners

At the beginning of the war, under the above regulations, land was taken for the purposes of the war. Hotels were taken for the use of public departments; poor, law, and charitable institutions and local Government institutions were taken for hospitals and housing of workers. The question of compensation was left in the air or settled by agreement in which the Government agreed to pay the bare loss. To provide for the conditions where an agreement as to compensation could not be reached, and in cases not otherwise provided for by the law, the Defense of the Realm (Losses) Commission was appointed on Dec. 31, 1915. The reports of this Commission are important to consider in detail, for they set up the principles upon which compensation should be paid. In brief, the principle is that the person deprived of land merely gets compensation for the bare loss which he has suffered; if the land was not being used he gets nothing except for damage directly done.

While this may or may not be a satisfactory solution of the problem as regards temporary occupancy, it was felt about the middle of 1916 that something more should be done for landowners. Realizing that the war would probably last for some time to come, it was deemed wise to provide a new system of compensation. Consequently, on Dec. 22, 1916, the Defense of the Realm Acquisition of Land Act was passed. This provided for a system of compensation considerably more generous than had been given by the Losses Commission, but considerably less generous than that provided by the Land Loss Act.

It should be clearly kept in mind that this Act does not deal with compensation for the occupation of land during the period of the war. This is still paid either by agreement or under the Defense of the Realm (Losses) Commission. The act deals mainly with:

1. Temporary occupancy after the conclusion of the war.
2. Permanent occupation.
3. The power of the Crown to sell at a later date.
   In this the technique of the Land Clauses Act is retained but the principles of compensation are modified by the schedule. Article 6 of the schedule is of the greatest importance, for by virtue of this article the value of the land is its value at the commencement of the war. This is a point of the utmost importance. The Government therefore avoids paying for an increment which it creates by its own effort.
5. Provision of a tribunal to determine compensation. (The Act also deals with a number of other difficult questions.)

We may briefly summarize the situation as regards the occupation of land for war purposes as follows:

Through the powers set up in the Defense of the Realm Act, the state took possession of land without considering the question of compensation. Where the occupation is temporary, for the period of the war or a shorter time, compensation is payable, either by agreement or is assessed by the Defense of the Realm (Losses) Commission. For land occupied temporarily or permanently for a period after the war, compensation is determined by the Defense of the Realm (Acquisition of Land) Act. It is obvious that the method of settlement is complex because of the different systems of compensation for occupancy during the war and for occupancy thereafter, and that the first is not statutory, whereas the second is done under statutory powers. While it would be convenient to bring the whole scheme under legislative enactment, one cannot but realize, after examining the documents relating to the establishment of the basis of settlement, that the procedure of immediate action adopted by the Government in its Defense of the Realm program was the one absolutely certain way of meeting the situation.

The Bearing of These Evolutionary Developments on Our Own Immediate and Future Problem

Again, one may ask, what has all this British historic tradition, social tendencies, legislative enactments, methods of finance, to do with the program and method of British wartime housing and the problems which confront us in America?
Why drag in all this seemingly extraneous matter?

It has this to do with the issues at stake: Without the background of historic tradition, social tendencies, laws, methods of finance, the co-partnership movement, the groups of well-equipped technical experts, such as architects, town planners, borough engineers, members of local councils having technical knowledge of the subject, the accumulated data and experience of the Local Government Board, and, above all, the growing public opinion in favor of placing greater national emphasis upon the subject of adequate physical environment for the worker—without all this, the marvelous achievement in the supply of munitions of war would not have been possible. It was this background of British experience in housing and town planning prior to the war which furnished the raw material out of which imagination framed the broad program of industrial preparation and which likewise provided the experience and technique through which this broad program in turn was brought to fruition.

As I write, upon my return from England, where I have so recently viewed her colossal industrial wartime achievements, and in so doing, grasped something of what must be the flow of munitions to the front, and where, also, I have seen what approximates the sum total of a nation's energies directed toward a single national purpose, the even greater magnitude of our particular task is driven home to me with an overpowering force.

We have not awakened; we have not yet come to anything like a full realization of the magnitude of this struggle. There is, as regards this vital problem of housing, the same lack of progress, the same lack of effective national program, the same lack in scope of conception which existed when I left two months ago. There is no federal machinery; there is, apparently, no legislative authority; there is an extremely limited field of technical experience to draw upon; in a word, we are, as regards the industrial housing problem, infinitely less prepared to meet the urgency of war's demand than were we in the field of military preparation at the outbreak of the war. It is easy to overemphasize in a crisis such as this, yet the shortage in houses is a very serious menace.

Our Failure to Realize the Scale of Our Task

As I understand the situation, the tentative suggestions now before the authorities propose that we embark upon a program of action which was abandoned as futile by the British Government during the first few months of the war. In a word, our tentative program expresses the composite British opinion of what should not be done. We propose, as I understand it from the fragmentary press reports which constitute the only information at hand, to provide the necessary housing facilities around munition plants through methods which it is hoped will stimulate local groups, industrial corporations or housing companies to immediate action. By merely rendering financial aid it is assumed that adequate industrial towns will immediately spring from the ground. This proposal is an advance over our pre-war methods, but it is a very feeble compromise with even the British pre-war program. It is precisely the method abandoned by the British Government as its central policy during the early stages of the war. Lastly, it will fail.

Before we embark upon such a policy, it behooves us to consider thoughtfully what British experience has to offer. When the war broke, and as soon as the urgency of housing facilities was made manifest to the British authorities, they quite naturally turned for assistance directly to the existing mediums, for during the days of peace, under the powers and authorities already set up, these various mediums had been more or less capable of meeting the needs of normal conditions. (In respect to their shortcomings, it may be stated that all that was lacking was a greater amount of stimulation on the part of federal authorities.)

In theory, this was seemingly a logical and a natural thing to do. It was natural, as it had been in the days of peace, to assume that the initiation of a housing or town planning scheme through the activity and the interest of a local group would promote a keener local interest in the enterprise, and, considering all factors of politics, social groupings, the sources of supply and of production, such a policy should end in achievement.

But there was one factor in the problem which, as events developed, utterly changed the pro-
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gram of action. We must recognize this factor, for it enters into our problem to an infinitely greater degree than it did into the British problem. This new factor was the scale of the operation. Let us keep this fact ever before us, for we shall see how it was that the British pre-war methods broke under the strain of war. It was not because those methods were unsound in principle or impracticable of application; it was simply and solely because they had not been conceived or adjusted to the scale of war. Parenthetically, the suggested changes in housing legislation and technique which we shall discuss under the heading “British Reconstruction” represent merely a new conception of scale in housing and town planning operations.

England’s First Efforts to Provide Houses

What were the methods first used by the British Government? Owing to the rapid increase in the costs of material and labor, the uncertainty as to the future of munition plants, and the resulting precarious nature of housing investments adjacent to such plants, it was manifestly impossible to throw the burden of supplying housing facilities upon Local Authorities, co-partnership companies, or industrial corporations upon the old pre-war basis of financial arrangement as regards loans from state funds. Speculative building immediately ceased.

It was therefore proposed that the Government grant a subsidy or a substantial amount representing approximately the difference between the cost of the operation executed during the war and the cost had it been executed under pre-war conditions. With the constantly advancing scale of prices, there followed an endless series of bargainings between the Government and private enterprise or Local Authorities. An endless variety of financial arrangements were entered into, both as regards the subsidy and the final disposition of the property after the war. Even today the exact basis of arrangement or transfer of property has not been standardized.

In some cases the Government advanced the total cost of the operation, with the agreement that the entire cost become an obligation of the Local Authority, and that at the close of the war, or within a certain specified time thereafter, the Government would write off a part of the obligation and thereby reduce the same to an amount which would have represented the value had the scheme been executed prior to the war. The general policy in such cases has been to make such loans extend over a period of forty years.

The Necessity for Centralized Federal Action Based Upon a Conception of Scale and Magnitude

Complex and involved as are operations conducted upon this basis, something has been accomplished. To a very limited extent the method has been successful, but it must be stated clearly that this method has provided but a small fraction of the housing accommodations during the war.

Against such methods we must point out certain very serious defects. When a local group embarks upon such an undertaking it fails to grasp the urgency of the demands, and the operation very frequently drags on during a seemingly interminable length of time, as was the case prior to the war. There is certain to follow among local groups the scramble for labor and materials, competition and the attending advance in prices, and a certain disintegration of the general Federal purpose.

If we value British experience, we do not have to argue the case for or against the use of local initiative, for that experience, as evidenced by the complete change of policy, proves conclusively that local initiative is relatively futile.

I cannot speak with a background of universal knowledge as regards British opinion concerning the most advantageous policy to be adopted, but among those representing an exceedingly wide field of interest with whom I talked, the opinion was practically unanimous in favor of state initiative, state construction, and state operation. There appeared to be no doubt upon this major issue. To those in the Ministry of Munitions, whose task it is to supply an inexhaustible flow of war materials, adequate housing, with the amenities and the general welfare of those who labor, it is a matter which must be approached upon precisely the same basis of integrated purpose as is the problem of providing food or transportation for the vast army at the front. Such a policy is imperative. Therefore, why propose other than a scheme of closely integrated purpose and action surrounded and backed by absolute authority?
It is this new concept of relative values, this new recognition of scale, which led England for the moment to cast aside the old pre-war technique of local initiative and to substitute the new technique of war. This question, which was a local problem deemed of sufficient magnitude before the war to have required state aid, has now become a national problem of the very first magnitude.

I would not convey the idea that the organizations in the British Government which direct this effort are perfect. They are far from that. There are needless departments and a corresponding waste of effort which was recognized by those in charge and who expressed repeatedly the need of a greater degree of centralization and coördinate action. But the British Government has in the Ministry of Munitions an organization which, in the space of a single year, has produced a series of munition plants and industrial towns with all of the amenities and the essentials of well-being. These towns not only insure the continued supply of munitions so long as the war shall last, but they are, in addition, a present and a future asset—one of the very few large capital values which have been created by the war.

Details of the English Operations

So much for the general executive and financial aspect of wartime housing. Let us consider for a moment the physical side. One thing strikes the observer forcibly in practically all of the larger operations conducted by the Government. These communities are complete. They are laid out along the latest ideas of housing and town planning. They contain, beyond the cottages (permanent and temporary) for industrial workers, dining-halls, recreation buildings, clubs, institutes, schools, playgrounds, churches, hospitals, stores, markets, and they are provided with excellent roads with curbs, sidewalks, fences, hedges, and, in many cases, trees have already been planted. The permanent elements—and these are not confined to cottages, but include many of the amenities noted above—in arrangement, design, materials, and the amount of space surrounding each cottage unit, compare most favorably with any of the similar operations developed prior to the war; in fact, in some of them it seems to me that I observed a definite step in advance. As I passed through a number of these, it was exceedingly difficult for me to grasp the idea that the first sod was turned very little over two years ago. There were no ragged edges. The characteristic British thoroughness was everywhere expressed.

During the early stages of the war, England first embarked upon a policy of erecting temporary hotels and cottages, but when the magnitude of the struggle was fully grasped, and it was realized that the shortage of materials used in temporary structures carried their cost to very nearly that of permanent structures, the general policy was changed, and from that time on the central idea has been to build of permanent materials wherever it was humanly possible so to do.

Of the permanent cottages, nothing in particular need be stated beyond this: They are quite as good in every respect as the best examples constructed prior to the war. They are somewhat simpler in design and, in consequence, I think, rather more appropriate.

Hostels

In the same way, of the temporary hostels nothing need be stated except as regards the tendencies which developed as a result of their use and operation. The initial program contemplated very large groups of hostel buildings, each containing many cubicles. These large groups were related to the central units, such as dining-rooms and recreation buildings. This scheme was found rather difficult to manage, and the more recent tendency is to construct hostels, particularly those housing women workers, in much smaller units, each complete in itself; that is, in each hostel there is to be found a control, a kitchen, a dining-room (sometimes used as a general living-room), sometimes with a living-room in addition, and a group of two to three hundred single dormitory rooms. With this arrangement, a homelike quality is insured and a much closer and intimate supervision maintained. One other thing should be noted in this connection. Hostels of this sort provide that each shift shall occupy a single independent wing. There are no rooms working two or three shifts. The advantage of this must be perfectly obvious.

Notes on the operation, management, and a criticism of the various plans will be noted in connection with the drawings published elsewhere.
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The Amenities and Their Vital Value in Production

One other point should be emphasized: We must not limit our concept of housing operations to the question of cottage erection and the provision merely of sidewalks and roads. In the original plans for these various industrial towns, England included a great variety of buildings and features which come under the general head of "amenities." Owing to the urgency of war's demands, the scarcity of labor and materials, in some cases the immediate erection of these was omitted from the construction program. It is significant that very shortly after the plants were put into operation every possible source of energy was then directed toward the immediate erection of these missing elements. These were added for a very definite reason: It was hoped that by their addition to the housing elements the very serious daily labor "turn-over" would be reduced. Such proved to be the case, and, in the later schemes, it is interesting to observe that the construction and provision of the amenities goes forward at the same rate of speed as does the erection of the cottages and the plant.

It may not be evident from the drawings and from the few photographs available at this date how adequately do these new Government constructed industrial towns express an integrated purpose. They give evidence to a broad imaginative concept which is in scale with the needs of the day. They prove the value of focusing expert knowledge upon a single problem, for it is, upon final analysis, not a hundred different problems; it is rather a single problem with perhaps a score of variations. Why should we waste effort in the organization of a hundred enterprises which in turn must each have its many subdivisions of organization? Our problem is to conserve our energies.

In the light of my recent experience, viewing for the moment the British and the American problem at a little distance, I cannot but feel that our proposals for carrying forward the work of housing the rapidly expanding army of munitions workers is little more than a feeble gesture. If we are to succeed to a degree in any way comparable with Britain's success in the fabrication of munitions or in scale with our own ideals, we must at a single step span the entire field of the British background of experience, both pre-war and war, and set up immediately as a part of the federal organization for carrying on the war a central body with sufficient power to adequately meet the maximum demands of industry, regardless of what those demands may be. We must be made to realize the proper sense of scale, and the bearing of England's achievement on her future social and industrial structures.

RECONSTRUCTION

We assume that in England, where apparently every effort is directed toward the accomplishment of the vivid national purpose—War, that there must be a breathless waiting for the outcome of the struggle and a deep anxiety regarding the days when her vast armies shall have returned from the field of action. Paradoxical as it may seem, such is not the case; there is no waiting. Everywhere there is a searching of the heart, a probing after fundamental values, and an active endeavor to formulate the outlines of a policy of reconstruction which will, in some small measure, compensate for the losses sustained, and which will render the national life after the struggle not unworthy of the deeds of heroism at the front.

Three years of struggle with a single object as the goal of national endeavor have wrought tremendous changes, and the countless strands of individual aims have been gathered up and woven into one vast fabric of national purpose.

But we all know that this war must end, and the problem, therefore, is what shall then be the national purpose which will serve to hold the fabric together?

How can that purpose be expressed in terms intimately related to the many complex forces contributing to the national life? By what technique can these forces be coördinated and directed without the sacrifice of individual initiative? Such are a few of the questions uppermost in the mind of thoughtful England today. Similar in import is the industrial "unrest."

Through the travail of war, there has been born a hope conceived in the dark days of the Industrial Revolution of a century ago.

If viewed in the light of pre-war convention and dogma, the proposals for reconstruction seem revolutionary; but they are not so viewed. Thought which was revolutionary in its nature
has now become merely radical. And there are no limits or boundaries. Speculation, it is true, centers around the problems related to labor, industry, and education, but the proposals search out and affect every phase of national life. The value of directed integrated effort has, in a measure, been realized, and the realization has opened up vistas looking toward a nearer approach to a general scheme of national syndication of group purposes.

Such, in brief, was the background of tendency and thought against which I viewed the industrial technique through which England supplies her vast armies at the front. My purpose was to survey rapidly the industrial housing situation and to study the methods whereby England had essayed to solve this gigantic problem which had so suddenly confronted her. I visited nearly a score of the larger munitions plants scattered throughout England, Scotland, and Wales, and the magnitude of the problem was more than vividly revealed. I went primarily to study the physical aspects, but it was impossible to confine myself to such a limited phase of the operation; for the far-reaching effects and the significance of the broad policies adopted as war measures had created an entirely new set of social and economic values as regards labor and housing, and had thrust the questions boldly into the realm of future national politics.

The Obligations of the State

Prior to the war, by several Acts of Parliament, the State had assumed the obligation of adequately housing her working population. This obligation was not to be fulfilled by the exercise of police power, as is our policy in the States (where the State has actually assumed no obligation), but by acts of initiative and the rendering of direct financial assistance. Obviously, the effectiveness of these Acts was limited by the social and economic values used to determine the standard as regards adequacy. Notwithstanding the relatively low values used, these Acts have proved effective. The State had already, prior to the war, initiated many enterprises, and the financial aid—the long-term loans at low rates of interest given subject to State control—had very greatly stimulated house-building on broad town planning lines.

While direct action by the State and the financial aid, rendered to properly constituted bodies was a long step in advance, these did not solve the problem. The old relation between wages and the cost of living had not been altered; in fact, the purchasing power of a day's work was falling. The mere lowering of the rate of interest and the removal of many of the hampering conditions surrounding house-building was not enough. Up to the outbreak of the war, the shortage was accumulating. Conditions in some quarters—in the great industrial centers—had become acute.

Such was the situation in the summer of 1914, when the tremendous and instant expansion of industries created a housing problem which had to be met without a moment's delay. For perfectly obvious economic reasons, private enterprise failed to respond; there was but one possible resource—State action.

And the State acted, and acted immediately, not with the breadth of vision that it should, but the power was created, and housing enterprises, both of a temporary and a permanent nature, were started. Towns, and even cities, were projected and laid out over night. The unusual financial aspects of the problem and the shortage of labor and materials were accepted. The central idea was to provide adequate and sufficient housing—permanent in so far as possible—arranged on broad town planning lines, anticipating future growth, and to provide this in the shortest possible space of time.

Then it was that a new and a permanent value as regards the importance of housing was established. The State recognized, as never before, the vital importance of industry; and both Industry and the State recognized—not in theory, but by sweeping acts of acknowledgment—that upon the adequate housing of the worker as regards the home, its environment, and the amenities, may depend the very existence of the Nation.

Not a few, at the inception of this program, stood firmly against the provision of the amenities and such elements as make for a reasonable degree of comfort and social intercourse, and in consequence many schemes progressed without them. It was interesting to me to see, in the process of building, wherever I went, additional recreation and clubrooms, and provision for a larger social life. I touched upon this aspect of the problem in my many interviews with the heads of these great establishments, and not
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Once did I hear other criticisms of the schemes than that the original conception had been far too limited in scope and too small in detail, and that it was a fundamental error not to provide the maximum possible facilities for well-being, social intercourse, and recreation. I did not have to ask their opinion; the present emphasis upon the construction of these elements and the scope of future plans was evidence and proof.

The New Value of Wages

The deeper significance of this nation-wide development is not limited by the fact that the State is housing its munition workers at a rental below what would in normal times be deemed a minimum return upon an investment of this sort. It is rather that a new method has been established for measuring the value of things created by Capital and Labor. Heretofore, in determining the value of a product we have included the cost of adequate plant and equipment, the actual cost of labor, overhead and profit. But labor value is likewise complex and includes, in lieu of plant and equipment, a house and its surroundings—for these are necessary. The value of labor has been fixed by its market value in competition, or by a union scale. The housing of the human machine has been left to “the devil take the hindmost” policy.

In the new war method of valuation, the cost of plant includes not merely the buildings wherein machines are operated and workers perform their tasks, but it also includes the buildings wherein the workers live and meet in social intercourse and for purposes of recreation.

It will be argued that this is a national crisis, that upon the fabrication of munitions depends the well-being, the very existence of the State; that the return to the ways of peace will immediately remove the urgency of the need, and that we shall then return to the pre-war basis of valuation. I have viewed this question from many angles, and I doubt if such will be the case. Labor has measured its strength in this crisis and will not be easily led back to the conditions prior to the war.

There may be a halting progress, but the steps taken will not be retraced. England will go forward, and the new standards and values created through the war will carry over into the days of peace.

The State has measured the relative importance of the factors looking toward its well-being. It has created broad powers and authorities and direct methods of conserving what it deems to be the most important. The technique is bold and crude: it is the technique of war, but this will be adjusted to the days to come, for its aim is peace, and a better peace than those who labor have ever known.

It is this aspect of the industrial housing problem which now becomes the central theme of the discussion.

Our Perilous Necessity

Unless we act now, the problem which England has faced and met today we shall later face under sternier conditions. It may be postponed, shortsighted; it cannot be turned aside. In broad outlines, the two problems—England’s of today and ours of the future—are identical. The differences relate to legislative enactments and technical methods; the social and economic factors are the same.

We may fancy for the time being that the war is nearly over, but there is little ground for such a hope. We must prepare as England prepared; but we can do more, for we can, through the knowledge gleaned by her experience, phrase our program of immediate preparation in terms of great reconstructive value.

In England, during the twelve years immediately preceding the war, there was an average yearly increase of over seventy thousand dwellings having an annual rental under £20. This yearly increase ceased immediately after war was declared. When we consider that this normal increase represents an accumulating shortage for the entire war period, whatever it may be—and that, in addition, an abnormally large number of dwellings have become unfit for habitation during the same period, and that there was, prior to the war a very acute condition of congestion in many quarters—it is perfectly obvious that a most difficult problem confronts the days of reconstruction.

A very similar condition of housing shortage has existed for some time in the States. We have practically ignored the problem; we have treated it locally, but not effectively. The conditions and the causes remain, and the problem will become more acute just so long as we take the narrow point of view as regards the application of the remedy. To a very large majority
of us it has been an indication of prosperity, a field for speculative profits, and we have utterly ignored the smoldering fires of industrial unrest which such a condition provokes.

An article appeared not so long ago in one of our popular American magazines. The title was "Standing Room Only," and it vividly portrayed the conditions existing in a certain prosperous (?) industrial city. Our callousness to the vital nature of this question was illustrated by the fact that not a few of the influential inhabitants of that city did not know whether to take it as a taunt or as a compliment that their town should be so frightfully congested.

It is but flying in the face of serious trouble to thoughtlessly ignore this vital social and economic question, or to attempt to solve it by makeshift methods. Neither of these conditions obtains in England today; she is earnestly endeavoring to solve the problem.

The Part Played by the House in the New British Labor Program

Naturally, it is difficult to bring into proper focus the broad mass of rather nebulous thought and opinion; it is equally difficult to reduce this to the semblance of a constructive program. But it is possible without considering technique to suggest the direction of enlightened opinion which is gradually evolving a program which gives promise of solving the problem. The few quotations following, taken from the already accumulated mass of well-reasoned literature, should serve to indicate the general direction of thought, something of the methods proposed, and the range of interests represented by the group struggling with this question.

Under the caption "A New Labour Programme" in the London Times (November 3) there is set forth by the Executive Committee of the British Workers' League the draft recommendations of a Program of National and Industrial Reconstruction as a recommendation to the General Council of the League which was to be convened immediately to consider its adoption. It reads like a program based on one of H. G. Wells's forecasts—a chapter from his Anticipations, as it were—and it is worthy of the most serious study. It contains the following suggestions relative to the program of providing adequate homes as a part of the plan of reconstruction.

**Housing:**

1. The Government must promptly inform all the local authorities that the requisite 1,000,000 new dwellings have got to be built, and that each place will have its assigned quota;

2. The local authority everywhere must be required to decide, within one month, whether or not it will undertake to build the quota thus fixed, upon the terms offered by the Government;

3. The land must be at once secured (or a legal option obtained) under the summary process of the Defence of the Realm Act or some equally speedy procedure;

4. The plans must equally be prepared and approved in advance; and the local authorities should be required to have them ready within three months of the decision to provide so many dwellings;

5. The Government must for four years secure "pri-
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ority" for these 1,000,000 working-class dwellings as regards all building materials;

(f) The 1,000,000 new dwellings should be everywhere begun the day after peace is declared; but should be proceeded with, month by month, strictly in correspondence with the supply of building trades workmen, so as to leave practically none of them at any time unemployed;

(g) Where the local authority obstinately refuses to build the quota assigned to it, the Local Government Board should itself undertake the building, placing the work under the supervision of a local committee appointed by itself, on which the Trades Council, the Local Trade Union branches, and the local women’s industrial organizations should be represented.

In April of 1916 a National Congress was convened to consider Home Problems after the war. This Congress was composed of representatives of the Local Authorities (city councils, town councils, urban and district councils), throughout Great Britain, representatives of trades unions, architectural societies, cooperative societies, teachers’ associations, property owners’ associations, and individuals generally interested in national issues. The complete report is a valuable contribution toward the solution of the after-the-war problem. The following paragraphs are from the Report of Deputation to His Majesty’s Government received by the President of the Local Government Board, September 20, 1916. This report represents a most thoughtful study:

That this Congress urgently directs the attention of the Government to the critical need for the provision of additional housing for the working classes, and in respect of the national interest and responsibility in the matter urges upon the Government to set aside no less than £20,000,000 to make such advances to Local Authorities and other Agencies as will enable them to provide houses at reasonable rentals having regard to all necessary and equitable circumstances and conditions.

That in the opinion of this Congress legislation is necessary to simplify and cheapen the transfer of land so as to encourage the building of houses for the working classes.

The Future General Housing Policy

(1) This Congress urges all parties in the State to take combined action to secure that every family shall be housed under proper conditions, and in order to secure this end, which is of vital and national importance, urges that legislation should be introduced:

(a) To set up machinery in all industries to require employers to pay wages sufficient to ensure decent housing accommodation for the workers in these industries; and

(b) To secure that, where such raising of wages can only be achieved by stages, the Local Authority shall recognize and fulfil the duty of providing decent housing accommodation for those unable meanwhile to pay an economic rent, and that the whole country shall bear the difference in the cost between the rent of the decent dwelling and the rent which the tenants can afford to pay.

(2) That in view of the results produced by the systems of providing houses for the working classes hitherto prevailing, this Congress requests the Government to take such steps on either local or national lines as will facilitate and stimulate the activities of Local Authorities and other agencies in the erection of houses that are necessary.

(3) That, in the opinion of this Congress, housing schemes promoted by public authorities, save in the case of schemes intended for housing those unable meanwhile to pay an economic rent, should be economically self-supporting.

Shall We Help or Hinder the Birth of the New Hope and Spirit?

These are but a few of the many proposals and suggestions which express quite accurately the general trend of British opinion as it views the tremendous and inevitable problem of reconstruction. While these suggestions are in the main general in their statements or demands, there is also to be found a group of definite, well-organized proposals aimed at affecting the desired changes. These are in the form of recommended amendments to the existing Housing and Town Planning Acts. They cover the entire field of and affect the work of the Local Government Board, Local Authorities, copartnership companies, industrial corporations, and private or speculative enterprises. Such details must of a necessity be omitted; but in the broad legislative policy which we must formulate and enact these expressions of British evolution in Housing and Town Planning policy must be reckoned with. They will affect the social and economic future of the whole world.

The technical suggestions are all directed toward increasing the scale of the present legislative enactments. Greater financial inducements in the way of larger advances and time of loan, will undoubtedly be offered to Local Authorities and to Public Utility Societies, which embark upon adequate housing and town planning schemes. The imperial obligation to house the workers in an adequate environment will be fulfilled through the extension of powers and authorities, and I should not be surprised to learn at some not distant date that the adequate planning of urban and rural areas in England had been made obligatory by an act of Parliament. The same public sentiment, the same stream of tendencies which produced these acts,
is gaining in strength. It would be highly irrational for one to assume that the process of evolution will suddenly cease, and that a nation with an awakening sense of social justice to all will suddenly and without cause stagnate and cease to advance.

The central theme of the picture of England today is not war, nor soldiers, sturdy and full of life, nor soldiers wounded in battle, nor guns, nor munitions of war, nor the crosses over the graves of those who have died, nor grief and sorrow, nor a world filled with unrest and discontent—no; for the central theme is a new hope. And this new hope is not that hope of the aged or the last hope at which men grasp—it is instead the hope of youth, the hope of robust life, the hope that goes with a knowledge of strength and power, that inspires and in turn calls for action.

Nor is it confined to the victories of war; it permeates the lives of all. Those who are timid and afraid call it Labor Unrest, the Ferment of life, nor soldiers wounded in battle, nor guns, nor munitions of war, nor the crosses over the graves of those who have died, nor grief and sorrow, nor a world filled with unrest and discontent—no; for the central theme is a new hope. And this new hope is not that hope of the aged or the

THE AMERICAN BACKGROUND

WHILE our history discloses no exact parallel to the economic conditions surrounding production and the physical conditions surrounding the home life of the town laborer in England during the days of the Industrial Revolution, we have witnessed, during the latter part of the nineteenth century, conditions and tendencies in industry which bear a striking resemblance to those observed in England a century ago. But there is disclosed no corresponding parallel to the movement expressed by the terms “collective ownership and administration,” “collective regulation,” “collective taxation,” and “collective provision” which mark the development of the British coöperative societies among the workers and in British social politics (resulting in certain specific legislative enactments and a corresponding rapid expansion of the function of government in the fields of production and consumption); these have been rapidly developing in England during the last three-quarters of a century.

We have pursued a middle course. Conditions of labor within and without the factory have not been quite as bad, and, as a result, our program and measures looking toward amelioration have been but little more than a series of feeble compromises.

We have conceived government to be an institution, the purpose of which was to dispense a limited kind of justice and to control our vicious acts through the exercise of police power. Property has been, upon the whole, the sacred thing, and the safeguarding of the rights of individuals to have and to hold has been the central purpose expressed in our legislative enactments. That this should be the case is natural. We have been pioneering, and life has appeared to consist in accomplishment phrased in terms of limited individual purpose. Our expansion has been marked by frightful waste; conservation has appeared as a function of government only after individuals felt the pinch of want.

In the office of the National Housing and Town Planning Association in London is a library which contains the greater part of the housing and town planning literature published in America. One day I took occasion to study this library in the hope of thus arriving at a comparative estimate of its scope and a clearer idea of our aim and purpose. I was at a sufficient distance to observe our general tendencies and possibly to note our rate of progress.

As a result of this re-survey, I was furnished with a most interesting experience; as I read the tables of contents, the forewords and occasional paragraphs and summaries, there developed a better understanding. It was made evident to me that our past should be considered merely as a period of incubation. Our appeal for better houses and a broad policy of town planning had been phrased to arrest the attention of the greatest number; we had chosen the financial aspect (the economic is altogether too broadly expressive). The more or less obvious value of better sanitary conditions had furnished the basis of our appeal.

Our purpose, expressed by our emphasis upon
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the financial benefits to be derived from better conditions of sanitation, has limited our programs for planning towns and houses in a most extraordinary way and has brought about certain tentative solutions of these problems which will do quite as much to thwart progress as anything we could possibly devise.

In our effort to provide better conditions, we have limited our federal, state, and municipal legislative enactments to restrictive measures. We have assumed that by enacting legislation against a bad condition we would thereby create the opposite. Restrictive legislation and the exercise of police power express the methods through which we have assumed that a better physical and social environment could be evolved. This does not follow. What we need are positive legislative enactments looking toward the creation of the conditions which we desire. I would not be interpreted as utterly condemning our efforts of the past. I realize that progress is a matter of evolution, but I point out that our concept of government as expressed in the existing legislative enactments, is too limited to be of any real value.

In "City Planning Progress 1917," published by the Journal of the American Institute of Architects, one finds a very complete summary of our progress in city planning. A hasty survey of this document leaves one most encouraged, but an analytical study produces the opposite point of view. One observes everywhere a worthy purpose as expressed by the formulated plans; but when one considers the technique of carrying these subjects into execution, one must admit that the machinery now set up is totally inadequate. A commission without authority is an excellent vehicle for education and for the distribution of propaganda. In exceptional cases, such a commission may be highly qualified as regards technical experience; but, there being no element in the municipal, state or federal government whose function it is to carry on work of this sort, progress is hesitating. Ofttimes the work of such a commission is merely pigeonholed.

As has been pointed out, within our cities effort toward the provision of better homes has been limited in the main to restrictive laws.

Judging by these, it may be said that aside from the placing of a limit upon the degree of congestion and insanitary conditions which will be tolerated within a municipality, the government is not interested in the question of decent homes for workmen.

In America there are, in general, but three methods whereby homes for workers are provided: Speculative building, philanthropic enterprise and initiation by industrial corporations.

Speculative building has failed in America, as it failed in Europe, because of the most elemental of economic reasons: Speculative capital flows into such enterprises as offer the prospect of the largest reasonably safe return. So long as a low standard as regards adequacy and a high standard as regards congestion is tolerated, and so long as the cost of building is low, capital sufficient to maintain these lower standards finds its way into speculative home-building enterprises. As a result of better education, constantly increasing demands for a better environment, there naturally follows a gradual diminution of return, which in turn reduces the flow of capital used for this purpose. Since the demand for more adequate accommodations and for more homes inevitably occurs at a time of prosperity and industrial expansion, it should be obvious that it is absolutely futile to rely even in a small degree upon speculative building. It is utterly hopeless to assume that through this method the standard of living conditions may be raised. Uncontrolled speculation in this field is so closely akin to exploitation that to propose it as a method of providing homes at a minimum of rent is to propose that the workingman be exploited. Consider, for a moment, the pathetic and tragic stupidity which compels our communities to give land-owners the values which the community creates, and which, as though to twist the knife in the wound to our national life, then taxes the man who improves his land!

Philanthropic or semi-philanthropic enterprise, depending upon the generosity of individuals and their willingness to accept a low rate of interest, while admirable if considered from a limited point of view, need not be seriously considered as a solution of the problem. While such enterprises may do excellent experimental work and in so doing set a good example

*For a concise statement of the "Constitutional Limits of City Planning Powers," see pamphlet by this title, by Edw. M. Bassett, City of New York Board of Estimate and Apportionment Committee on the City Plan 1917.
The strip of water-front on the west bank of the Delaware River, between Philadelphia and Wilmington, Delaware, is selected for an example, as it unites in itself all the factors necessary for an successful solution of the problem. However, the principle modified as to detail applies equally well to any other manufacturing center.

In the chosen example the strip in its entire length of approximately 30 miles has ideal communication, both with ocean steamers and with three large railroad systems, but the lack of an adequate supply of workers—due again to the shortage of decent homes—nullifies in a large measure these advantages.

In order to reap the full benefits of this field, the building of homes should be planned so that each village or group should be so placed that its inhabitants could equally well seek employment in one of several factories, and, conversely, the factories should not be hampered in their operation and expansion by having to depend on workers housed only in immediate proximity to their own plant.
Thus, the effect of any temporary shut-down of any individual plant would be distributed over and affect to the minimum degree the prosperity of the entire district.

Each group would possess its own churches, schools, stores, recreation and amusement facilities. Ample and easy communication would be provided by main arterial highways and by trolley or motor omnibus service. An example of a good unit development is shown in the plan of Glengarnock (see page 629).

While the success of such a plan demands that the ownership in factories and in houses should be treated as two separate and distinct things, it is equally necessary, as to stability and continued prosperity, that the underlying lands should be operated for the benefit of the community and not for the benefit of individuals. Otherwise, the inevitable end is congestion, slums, and the appalling human and economic waste which has already impeded our war production.
and perform a valuable service, yet the total number of homes thus created is too small and will ever be too small to be considered as a possible solution of this problem. It has been argued that the higher standard set by philanthropic enterprise tends to raise the standard of speculative building. To a very limited extent this may be true; but it may be argued that philanthropic enterprise directs the flow of speculative capital to other more remunerative fields and in so doing actually diminishes the supply of homes. In the proportion that enterprises of this sort are apparently successful, do we postpone the formulation of a broad home-building policy.

If one were to select such a home-building policy as typical of present American tendency, he would probably choose that employed by the larger industrial corporations. This method has been fostered by social reformers and it appears to the industrial corporation to be the only solution of the problem when they are confronted with the condition of either limiting their output or building homes for their employees. As in the case of philanthropic enterprise, this method has a material value and it may raise the standard, though the latter is a debatable question, one in which I would take the negative. In any event, all depends upon the attitude of the corporation embarking upon such an enterprise.

This policy should be accepted merely as a temporary expedient, a past experiment, and it should be deprecated as being in nowise a solution of the problem. At best, it can deal with but a small sector of the problem taken as a whole. It can be applied only where the initiating corporation is sufficiently strong to use a portion of its capital and its earnings for the purpose of home-building for its employees. It makes no provision for a much larger proportion of workers who are employed by corporations having insufficient capital or who are unwilling to embark upon such a policy. In view of the economic conditions surrounding employment, such a policy must inevitably give the larger corporations an advantage over the smaller. This, however, may be far from permanent, and depends entirely upon other factors in the relation between employer and workmen.

The question of individual ownership of a home by a worker through voluntary purchase from such a corporation should be ruled out of consideration in connection with this discussion. Under such conditions, the purchase is never voluntary nor is the laborer free. The policy is not based upon sound social or economic principles; and the mere fact that it may sometimes be employed successfully should not lead us to the conclusion that it is not a vicious practice when the problem is considered from the national point of view.

It is eminently desirable, and the war has thrown a greater emphasis than ever before upon this point, that all those who constitute a nation shall live in the highest possible state of physical and social well-being. To assume that speculative builders, philanthropic societies or industrial corporations are responsible for the maintenance of the physical and the social well-being of those who work is merely an act of throwing the responsibility to certain groups who appear to us to have a special interest in this problem. This is simply a way of saying: "Let George do it."

Industrial corporations have, in many cases, accepted this responsibility because in so doing, and by no other existing method, was it possible to continue their policy of expansion. To such it was not a question of building homes for the workers of America; it was a question of output and dividends. By our general acceptance of this method we have acknowledged the fact that homes cannot be provided without some stimulating force. It is something to have acknowledged this, to have recognized that some financial and initiating aid must be called upon if our industrial population is to be provided with adequate homes; but it is no solution of the problem to point our finger at prosperous industrial corporations and say: "You're it."

We may emphasize, and we should emphasize in individual, industrial and national terms the social, moral and economic value of creating around industry the most desirable conditions of work, rest and recreation, but we should also at the same time define in simple terms the line or boundary which defines the responsibilities of the corporation and the responsibilities of the state. One might present long arguments in favor of this clear definition of responsibility, but the fundamental reason is simple in the extreme: Industrial enterprise is organized, so long as it is private enterprise, for the single
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purpose of production and profit. This holds for industries whether they be large or small. The home and the entire environment in which men live is organized with a single purpose in view, namely, that of providing men with the maximum results of labor. That industry might be organized with this same purpose in view is a perfectly rational suggestion and it may be that at some future day the organization of the "Key industries" will assume this form. Under the present unorganized economic condition of society it is futile to attempt to solve this national problem by asking private enterprises in production to organize the collective provision of homes and an adequate environment for workers.

The Immediate Problem in the United States

By inference, the broad outlines of the policy which we should adopt and put into immediate execution has already been suggested in the outline of the British policy under the heading "British War Housing."

The following is a composite of opinion, British and American: As already noted, we can profit materially by the adoption of certain British methods and we can, at the same time, anticipate many of the problems of reconstruction by incorporating in our method of immediate procedure such policies as will embrace the problem of the future as well.

Workmen's home-building operations which are now under construction should be completed under the terms and conditions by which they were initiated, provided sufficient progress is made; otherwise, the government should take them over and proceed with the operation through the organization suggested below. Such operations should not in any way affect our general program of procedure.

By all odds, the most important consideration in home-building during war or during peace is the land problem. We should secure land for industrial housing purposes by precisely the same methods as were used by the British government. This includes the safeguarding of adjacent areas by a provision which will enable the government at a later date, during the war, to secure property for the expansion of an operation at pre-war costs. Incorporated and as an essential feature of our scheme, should be a provision whereby the unearned increment in the land thus taken by the government should be preserved so that the income from it will be used for the sole benefit of the community. The conservation of the unearned increment in land for the benefit of the community is in itself the prime factor in the economic solution of the housing problem.

The government should organize a separate department or a non-profit government corporation for providing the communities adjacent to munition plants wherever it develops that additional accommodations are required. This organization should acquire land under powers as suggested above, plan new villages, install roads, sewer, water, and light, erect houses and other buildings of amenity required by these communities, and it should operate the properties until such time as they may be transferred to others. This organization should cooperate with the various departments of the government which operate or control plants providing munitions of war. Control of this organization by the latter departments should be limited to a determination as to the extent and the general nature of the building operation. It is important that the management of the civil community should be in charge of a community manager, working under the direction of the Central Administration which would in turn frame a general policy of management in cooperation with the department operating the plant.

The entire property, land and buildings, should be retained and operated by the government during the war and for a certain period thereafter. Future values and conditions can only be determined accurately at a future date. Therefore, when conditions and values have been adjusted, local non-profit land companies with limited dividends should be formed to operate the properties—that is, rent houses, operate the utilities or rent land to private builders or companies—and use the surplus income from rentals to pay interest and amortization of the government's loan. The important features of this scheme, which is similar to the British copartnership operations in many respects, are that no land will be sold; title will remain in the original company and be handled.
as a community investment; rentals will be readjusted from time to time like tax valuations; and, since there can be no profit as a result of an increase of land values due to the development of a community, the increase in rentals would provide for the interest, the amortization of the government's loan, and an income to be enjoyed by the entire community which would approximate twice the revenue which this community would obtain under ordinary conditions and through the ordinary methods of taxation. This method conserves the unearned increment of land values created by the government's house-building operations. The new communities gradually purchase the underlying lands and the original houses at cost, thus reimbursing the government.

It may be argued that these new communities may collapse after the war, in which case the government loan will, of course, be lost, but by extending the period of government ownership and control beyond the war and by the organization of local land companies in each community to anticipate that danger, other industries may be secured. The chances that such an investment would be a loss are indeed remote. It is highly probable that a well-planned community, organized upon this basis, with provision of adequate homes and communal buildings, would draw industries to it without effort. This suggestion is not one of theory; it would merely be putting into effect, with but slight modifications, the practices in general use in the garden cities and the garden suburbs of England. The advantage of the scheme lies in the fact that we do not have to determine the complex details of ownership and future management at this date; and the success of this method depends solely upon the degree of thoroughness with which these communities are carried out. If they are well planned, well constructed and well organized, there is not the slightest doubt regarding the future value of the investment.

We know some of the changes which have taken place in Europe where one recognizes already a definite direction in the developing policies of reconstruction. What new forces will modify the direction of these movements no one can foretell, but of one thing we are certain: Europe will emerge from conflict as a world of totally new values, a world expressive of a broader interpretation of democracy. There will be a new relationship established between the two social divisions which remain, but these will not be separated by the same old barriers of prejudice and hypocrisy, and men and institutions will be appraised more nearly upon the basis of their worth. There will be less power in the hands of a few and there will be fewer pawns. There will be a greater appreciation of the value of an integrated national purpose. Many of the factors absolutely essential to large-scale production, but now utterly ignored, will each receive its proper share of attention*. Programs of national reconstruction and evolution will revolve about broader concepts of education, industry and commerce and the integration of the three.

For it would be strange indeed, after this experience in what approximates a national syndication of production and collective provision which now holds sway, if men should return and thoughtlessly take their former places in life under the same wasteful and uncertain conditions which prevailed before the war. Those now in the workmen's ranks will not return to those conditions, nor will those who direct the activities of production be willing to return to the old pre-war period of individualistic cutthroat competition and small-scale production. There will be a reorganization of business and of government as a result of the lessons learned in war. This reorganization will acknowledge that unity of purpose must exist between production and consumption, work and recreation, and that the simplest and most direct method of achieving this unity is through the extension of the functions of the government. There will also be observed a distinct effort toward the integration of individual and national purpose, and this integration will obtain in the proportion that we are able to bring the entire scope of our problems within our grasp of vision. We have been studying our problems at too close a range, in other words on too small a scale. In so doing we have been able to grasp but a tiny sector at one time. We must bring into our field of vision the whole problem; for it is only

*Note.—It would be of value if every American business man could read the "Elements of Reconstruction" (H. G. Wells), a series of articles contributed in July and August to the London Times, with an introduction by Milner, Nesbit & Co., Ltd., London.
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by so doing that we shall be able to rearrange and readjust the disorganized elements. Our ideas and capacities must be organized and mar-

shall to march in order like troops going to battle, for upon the unity of purpose expressed in action does the outcome depend.

(To be continued in the Journal of the American Institute of Architects, January, 1918)

THE ACCOMPANYING DRAWINGS

The Journal of the American Institute of Architects for September presented the general drawings of Well Hall, together with photographs of the cottages. In October was presented the general plan, together with many details of the scheme at Eastriggs. A general statement accompanied each of these presentations, and I make the following comment as a result of my visit.

From the standpoint of material accomplishment, Well Hall is significant, and this community will stand for years to come as a permanent asset, for the buildings are all of the most durable materials. My impression that the plan lacked center and direction was confirmed by my visit. One appreciated the amount of space surrounding each cottage but felt the lack of a well-arranged central element around which there might have logically been placed the community buildings such as belong to a scheme of this magnitude. The layout, however, is such that this defect in plan can be remedied by an extension of the scheme. One hesitates to deprecate any part of an accomplishment such as this, but it may be well to state that the impression made by Gretna and Queensferry was much more satisfying as representing a more direct approach to the problem. Particularly is this true when one considers that these were all wartime operations. Concerning Eastriggs, I merely say that the left portion of the plan, including the public hall and the institute, was most interesting, and one may well study the character of the cottages indicated upon the pages which follow this plan. Here was a solution of a problem which it seemed to me approximated very nearly the ideal as regards the architectural character of an industrial community. The architecture was simple in the extreme, but it was refined. It required but very little imagination to realize what this community would be a few years hence when the planting shall have been completed and the individual gardens surrounding each cottage developed.

I obtained a very similar impression from the cottages at Gretna and in Coventry, where the architecture was likewise simple and refined.

Plans of Queensferry, Gretna, Glengarnock, and Coventry are here published, together with certain community features, detailed comments of which are accompanying the drawings. Gretna is composed of both permanent and temporary structures, all of the communal buildings being of a permanent character. Queensferry is entirely of a permanent character, likewise Glengarnock. Coventry is entirely temporary. It should be noted in this connection that the emphasis early in the war was transferred from the erection of temporary accommodations to those of a permanent nature, and these temporary schemes are illustrated primarily to indicate the arrangement which experience in operation has shown to be the most advantageous.

A group of cottages is included without special comment. In connection with these it should be noted that in the more recent developments cottages are generally two full stories in height rather than a story and a half, this development resulting from the excess cost of dormers, etc. As regards the arrangement of the plans, the determining factor as to whether a cottage should be deep and narrow, or shallow with its greatest length facing the street, is a question which is determined primarily by the orientation of the site rather than the area of the plot. When this is considered in arranging the scheme, it is possible to utilize in total the same area of land for a cottage, regardless of its frontage upon the street. The position of the living-room, whether at the front or rear, is generally the result of a consideration of orientation. This subject has been given great emphasis and more and more has it become a dominating factor in the planning of these areas.

Where cottages are placed in rows containing more than two units, it is essential to provide accesses to the rear. Note therefore should
be made of passages provided in some of the schemes for this purpose. Government itself. Through this central control supervision is had over the small plots of ground such as occur within quadrangles or groups of cottages deeply recessed from the street. This subject is considered in that part of this statement which deals with the American problem.

SYNOPSIS OF THE PROGRAM FOR THE UNITED STATES

First, create a central body with

(a) Powers to acquire land under authority equal to that created by the Defense of the Realm Act. The final disposition of property need not now be treated.

(b) Powers to survey needs for housing facilities and to determine, in cooperation with a central priority board, the relative importance of industrial operations.

(c) Powers to design and construct communities where the needs of such have been made evident by the survey.

(d) Powers to operate and manage these communities during the war, and for a few years thereafter, along lines of policy similar to that expressed by what is known as the Co-partnership Tenants or Public Utility Societies in England.

(e) Powers to maintain a high standard of physical well-being in munition plants (adopting the standards set by our most progressive industrial corporations) and to organize community activities within the communities thus created.

The second step:

Create a commission to study the final disposition of these properties. Such a commission should consider such questions as:

(a) The organization of local non-profit corporations to manage and develop the communities created during the war.

(b) The saving of the appreciation of land values for the benefit of the community as a whole.

(c) The establishment of that part of the cost which should be written off as belonging to the cost of war.

(d) The basis upon which such communities could be transferred to municipalities, or non-profit corporations.

By such a method it would be possible to advance immediately upon new schemes, and in the event of a lack of progress upon schemes now under way, such schemes could be taken over by the Government and handled through the central body.
The one-story house was very generally used in Scotland, and the effect obtained in the small communities where this type prevailed was quite charming. In many of these, by the very ingenious use of concrete blocks and concrete slabs, a minimum of material was used. (Note the thickness of walls on the plan.)
COTTAGES
Cottages

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FRONT ELEVATION

GROUND FLOOR PLAN

UPPER FLOOR PLAN

FRONT ELEVATION

HALF ROOF PLAN

COTTAGES

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COTTAGES
In many respects this plan was the most satisfying. It is direct and simple, the setbacks in the groups of cottages along the main roads were effective, and there was an appropriate degree of dignity maintained in the general expression. Particularly interesting in effect were the quadrangles. This plan shows in the center a section given over to allotments. This is a characteristic feature of modern English town planning. These allotment spaces are leased for a small sum by a tenant occupying an adjacent cottage in the event that he desires more land for cultivation. This system works; and it has material advantages over a scheme where the allotment area is placed at a considerable distance from a cottage.
GLENGARNOCK—PLAN

About Glasgow there are numerous small housing developments of which this is an excellent example. These undertakings were all in the hands of the Local Government Board of Scotland.
TEMPORARY HOUSING AT COVENTRY

This plan indicates the earlier method of hostel development. Each of the wings contains approximately eighty individual rooms. The scale of this layout may be better understood by noting the detail drawing of the dining-room and kitchen group. This scheme is exceedingly difficult to manage. In the later developments where temporary housing was found to be absolutely necessary, experience indicated that the arrangement shown upon (IVB) was much to be preferred. This scheme* was criticized in that the dining-room or messroom, which was used as a general gathering-place except during meal-hours, was too narrow; otherwise the scheme was successful. The excellent toilet facilities should be noted. Perhaps the secret of success in the operation of a unit of this sort is the fact that the three wings are arranged to care for the three shifts of workers. By the complete separation of these shifts, there results no confusion during the rest periods.

There are no rooms working two or three shifts, there are few double rooms, and to my knowledge there are no bunk-houses in England.

*See plan IVB on opposite page.
PLAN OF THE DEVELOPMENT AT GRETNA

All of the buildings, such as cottages, school, police station, churches, cinema house, institute, shops, post office, public hall, hospital, at the upper end of the plan are of a permanent character and form a nucleus of the town which may in the future develop over the area now occupied by temporary hostels.
HALL AT GRETNA

There was a great deal of charm about this building, which was erected in six and a half weeks in order to introduce a social factor which was found during the first few weeks of operation to be absolutely necessary to the efficient operation of the factory.
INSTITUTE AND SHOPS—EASTRIGGS

This is an extremely interesting structure. Its operation may be clearly understood by noting that entrance to the two clubs (men's and women's) is through the passage into the court. Buildings of this sort have been a tremendous feature in stabilizing industrial conditions about munitions plants.
This building, together with the Public Hall at Gretna, serves as the axis around which the social activities of the community revolve. The central hall with its stage is constantly in use for entertainments of various sorts and for dancing. The first floor in general serves as a club for the men, while the second floor is a club for women. This building represents a new idea introduced into the social life of British industrial communities, and its effect upon the employees is watched with a great deal of interest throughout Great Britain.
This schoolhouse, simple and refined in character, with its windows so arranged that they can be opened the entire width without mullioned obstructions, was significant of the thoroughness of the operation and the new spirit expressed in England by the Education Bill now before Parliament.
These several drawings of change rooms are shown as illustrating various solutions of an important and difficult problem surrounding the care of operatives who go and come from the plant, both day and night, in all sorts of weather, and who are obliged in some cases to make a complete change of clothing, owing to the nature of the work upon which they are engaged. This problem has not been solved to the satisfaction of those having the matter in charge. It should be pointed out that experience has demonstrated the absolute need of ample accommodation for the change of clothing; that street clothes must be thoroughly dried and so cared for as to prevent loss from theft or from misplacement. Two points may be of particular interest as expressing result of experience. If there be three shifts operating, it has been found necessary to provide for these in three separate aisles or sections. This enables the attendant to properly control the belongings of each worker, to see that they are properly dried, and that the work-clothes are thoroughly cleaned during the operator's absence.

As a matter of interest it may be well to point out that in the Queensferry Change Room the operator is required to leave street clothing in one set of lockers, pass through a maze of showers, and then dress in a complete change of factory clothing before entering the factory. This operation is reversed when leaving.

These buildings are of a permanent character, and the plumbing equipment throughout is of the highest order.
EPISCOPAL CHURCH GRETNA
ELEVATIONS

ROMAN CATHOLIC CHURCH

GRETNA—TWO OF THE THREE NEW CHURCHES

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Obituary

Alfred J. Bloor

Alfred J. Bloor, Fellow A. I. A., born April 1, 1829, the oldest member of the American Institute of Architects (in date of election), died at New York on November 19, 1917. His decease breaks almost the last link of the chain that united the present members of the Institute with its founders. The older generation has passed away, leaving to their successors the memories of their steadfast efforts for the uplifting of our profession and a unity that was almost unknown in the days of their earlier professional life.

Mr. Bloor was not, strictly speaking, a founder of the American Institute of Architects. He should be considered however, as one of its pioneer members. He was elected to Fellowship on February 5, 1861. The Institute in its early form was organized in 1837 and incorporated April 13, 1857. From the time of his election, through the greater part of his active life, he was constantly in the forefront of its activities. His first office was that of Librarian, to which office he was elected October 22, 1867, the year in which the Institute was reorganized and the Chapter system adopted. As Secretary, he served the Institute 1874–1877, 1881–1883, 1887–1889. He was elected Secretary of the New York Chapter on its organization, March 19, 1867, and retained that office until 1898, when he retired. From that time Mr. Bloor lived much in retirement.

His mind and his notebooks were well stored with historical facts and illuminating reminiscences together with the underlying causes that contributed to forward the growth of the Institute, as well as those that at times seemed to retard its development and which had to be overcome. Modest and retiring, he was at times reticent and difficult to approach, but to those who knew him well and in whom he had confidence and recognized as co-workers, he offered a fund of well-digested information and was ready at all times to help and encourage.

During the years of Mr. Bloor's active life he was a voluminous writer, contributing to professional journals and to the daily press. Two of his more elaborate and well-studied contributions may be cited: His article on the "Origin and Processes of Formation of the Architectural and Art Societies of Europe," 1869, his, so-called, "Centennial Address" to the Institute's Convention of 1876, "A Survey of American Architecture and Architects from Colonial Times."

In the consolidation movement that culminated in the union of the Western Association of Architects with the American Institute of Architects in 1898, Mr. Bloor filled a conspicuous place, both as Secretary of the Institute and, perhaps in a still more important rôle, as delegate from the Institute to the convention of the Western Association in 1886.

He was with the Institute and its founders from the beginning, during its formative stage, and through its gradual development. When he retired from active service those days had passed away. The American Institute of Architects has now become strong in membership and a recognized professional body, having its own home, the Octagon, at Washington, with its historical background, while the field of the future lies before us, well plowed and prepared for the workers who are now with us and for those who are to follow.

George C. Mason, Historian of the A. I. A.

Book Reviews


In this volume the American Academy in Rome gives expression to what we may call the classical field of its endeavor as distinguished from that in which architecture, sculpture, and painting claim their sphere. How delicate and shadowy is the line which separates these fields is revealed as one turns the pages of this fine modern example of the printer's art. Perhaps the indefiniteness of this distinction seems to be more apparent today, when the convulsive struggles of a world in arms are drawing all values into the crucible where they shall be recast and reissued to mankind. What legends the new coinage shall bear—that decorative elements it shall carry—what new sense of values it will determine and offer for our consideration, no man knows. Yet we cherish an ardent hope that the new currency will be so clear in its import that we shall in some manner be able to use it as legal tender in all the corners of the earth. We feel that it is to be related to humanity and to life, and thus to art and scholarship and culture.

It is these thoughts which are evoked by these Memoirs. It is this dream which pervades us as we note the first article by Jesse Benedict Carter, for it was in these fields that he made his life's contribution. His are scholarship and unfailing energy remain as one of the bulwarks of the Academy and are recalled in full measure as we turn to the work of those who came under his stimulating and inspiring influence.

So it is, that, whether we respond to the serious and exhaustive study of "The Vatican Livy and the Script of Tours," by E. K. Rand and George Howe; or to the account of "The Aqua Trajana and the Mills on the Janiculum," by Albert William Van Buren in collaboration with Gorham Phillips Stevens; or whether we derive a keener joy from Mr. C. Denimore Curtis's article on "Ancient Granulated Jewelry of the VIIth Century and Earlier," with the illustrations of exquisite art which accompany it; or find a painter's pleasure in the story of Bartolomeo Caporali by Stanley Lathrop, and in the reproductions of his work, of which there are more than twenty; or learn the interesting history of "Capital Descena and Marble Coiffures," by John R. Crawford; or of the "Military Indebtedness of Early Rome to Etruria," by Eugene S. McCartney, we are conscious of the ineluctable relationship which all of this scholarship bears to the great hope upon which men are leaning now almost as never before.—B.

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Institute Business

Record of the Institute’s War Service

To the Members of the Institute:

In this age, when publicity has become such a power for good, the American Institute of Architects is fortunate in being able, through the columns of its own established Journal, to advance the aims of its members to make our National organization truly national. So much of criticism—even of constructive criticism—is based on lack of exact knowledge of existing facts and activities that even the Government has had recourse to the publication of its own Bulletin to secure this same kind of helpful publicity. The time has now come when the Institute’s war activities have emerged from endeavor into the field of accomplishment, and I am now able to sum up, not only the character and scope, but the results of the service which the Institute has rendered the Government.

The Formation of the Central Committee on Preparedness

At a time when so many of our members had protested vigorously against the wanton destruction of precious architectural monuments—when they voiced the opinion that it was in very truth “our war” and expressed the conviction that we must enter it when that truth should prevail—there came to the Board of Directors, from the St. Louis Chapter, a resolution calling upon it to tender the services of the Institute to the President of the United States. This was in April, 1916. After careful consideration, your officers, while in hearty accord with the spirit which prompted it, felt that such an offer could be of tangible value only after careful study had revealed the exact character of the services which we could tender. Accordingly, a small committee of the Board made an exhaustive study of our special capabilities and the fields in which they could be utilized, which revealed potentialities of such far-reaching importance that about February 15, 1917, a Central Committee on Preparedness was named, with Major Evarts Tracy as Chairman.

The Institute Offers Its Services to the President

On February 21 I formally tendered the services of the Institute to President Wilson, quoting the salient points from the report of the Board’s Committee. No sooner was Major Tracy’s campaign to mobilize our technical resources under way than the splendid patriotic spirit of our profession was made manifest by the requests which came to me from a number of architects with large practices, asking that I transmit to the different Departments of the Government and the Red Cross their offer of personal service free of charge and the service of their offices at cost. To give all an equal opportunity, I made the facts available to the entire membership, and the resulting deluge of similar offers gave early evidence of the unity of purpose and the absence of self-seeking which have characterized the profession’s relation to the war.

The Institute’s Services Accepted by the Navy Department

No sooner was this splendid offer received than the Navy Department requested me to “assign” some three and a half million dollars’ worth of hospitals and marine barracks. Right here I encountered a stumbling-block of my own making—for it seemed unfair to make the assignment to those offices which by reason of their size and organization promised the prompt service we all desired to render the Government. Not only would such a course deprive the equally patriotic architects with smaller organizations of their opportunity to serve, but would clog the wheels should other projects of magnitude come from other Departments. My suggestion that the service should be rendered by the American Institute of Architects through committees of three for each project met with immediate approval by those who were cooperating, as well as by the Navy Department. While it is with regret that I have to record the fact that almost all of the work contemplated was abandoned when Congress failed to pass the expected appropriations, it is gratifying to record the happy relationship thus established between the Institute and the Department.

Coöperation with the Council of National Defense

A few days later I was summoned to Washington by the Council of National Defense and had my first of many pleasant interviews with W. A. Starrett—now Major Starrett—a New York architect, acting as Chairman of the Committee on Emergency Construction, reporting to the Council through the General Munitions Board, of which Frank A. Scott was the able Chairman—and here I want to make grateful acknowledgment of the fact that in most of the successful efforts of the profession to serve the country, Mr. Starrett has been the sympathetic instrumentality. At that moment, however, it was his duty to take some of the sentiment out of our offer, by pointing out to me the conclusions of his Committee which were, in effect, that if the war was to last three weeks or three months our unselfish patriotic offer would be unhesitatingly accepted, but in planning for, say three years, it was an economic fallacy for the architect to furnish gratuitous service to his only client, the Government, which in turn was obliged to turn around and tax the professional man along with every other citizen to carry on the war. The truth of his statement was self-evident, and subsequent events have been guided by its controlling features.

In the meantime the Central Committee had mobilized an asset of tremendous potentiality, consisting of a card-

During the preparation of this article I have received from the Navy Department a copy of its letter of cordial acknowledgment of the highly satisfactory and efficient service of one of these Committees consisting of C. Grant La Farge, Chairman; Lawrence F. Peck, and William E. Bannister.

(The report of this Committee will be published in the next issue of the Journal.—Editor.)

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THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

catalogued enrollment of over three thousand architects and draughtsmen, able, eager, and ready to serve. And in this connection two things troubled me: This patriotic body of men chafed under inaction; they thought enrolling meant early activity, and again I feared the so-called selective draft might seriously deplete our asset which we were conserving for a Government which did not yet know and does not yet appreciate where and how it could best serve to the greatest advantage. Your officers knew of the tragic example of France and England, which was summarized by one of the British Commission who said: "England's needs in the technical field would be greatly relieved had she in service one-tenth of the architects who lie in heroes' graves on foreign soil," and so I endeavored to calm the natural impatience of the one and to lay the foundations for taking care of the other in the two special Journal Bulletins which covered almost all of the foregoing history in detail. In order that our endeavor to conserve these specially trained men from the blind operation of the draft might not be misconstrued, our action had to be confined to furnishing to each drafted man a certificate of his qualifications, together with a letter requesting him to seek technical assignment from his commanding officer.

The Cantonments

Late in May, while addressing the City Planning Conference in Kansas City, startling information reached me as to the inadequate conception of primary housing requisites in the planning of barracks in the earliest cantonments. Happily I was going to Washington on other Institute business the following day and took advantage of the proffered cooperation of Frederick Law Olmsted and George B. Ford to arrange a conference with the General Munitions Board through the courtesy of Major Starrett.

With characteristic incisiveness, Chairman Scott went to the heart of the matter and the following day appointed Mr. Olmsted a member of the Committee on Emergency Construction. His tactful work in securing the adoption of the Cantonment Division of the two-story barracks, which was developed by a group of architects versed in housing, whom he invited to collaborate with him on the problem, reflects great credit on him and gives to the Institute cause for rejoicing in having been able, through him, to render a service which would in its important results alone justify the labors of your officers. The confidence in the Institute's motives, established through these conferences, led the Committee on Emergency Construction to ask me to request a service from all the Chapters of the Institute of an emergency, as well as of a strictly confidential, character. I am proud to say that the prompt, thorough, and painstaking way in which the Chapters complied with this request has furnished a record of historic interest in Major Starrett's opinion and has gone a long way toward strengthening the Institute's official relationship with the Government.

Hospitals

Charles Butler, a member of the Institute who has qualified as an authority of the highest order on military hospitals, having served the French Government in de-
INSTITUTE BUSINESS

of our Chapter officers in exceeding every expectation of the Bureau has established a confidence in and a reliance on the Institute which is by no means the least of the war services of which we have reason to be proud.

Industrial Housing

With rare foresight, the pressing industrial housing emergency, as a prerequisite to maximum output of munitions and war necessaries, was realized by the Editor of the Journal, and, through his efforts, the Institute has been able to render a conspicuous service. The articles which have appeared in the Journal already have aroused an astonishing interest. The material which appears in this number, and which is in the nature of a report by Frederick L. Ackerman, who went to England as the special correspondent of the Journal for the purpose of making a close-range study of English methods, constitutes the most important contribution to the literature of housing which has been made in America. The members of the Institute may well congratulate themselves upon the foresight of the Journal and upon Mr. Ackerman's able and comprehensive study. The original program prepared by Mr. Whitaker has not yet been crystallized into a federal purpose on a scale such as Mr. Ackerman points out now obtains in England, but an untiring effort will be continued until the Nation fully understands the magnitude and the importance of the problem of workmen's houses, not only in war but in the peace to come.

Analysis of the Building Situation

While its object thoughtlessly might be considered selfish, the suggestion from H. Van Buren Magonigle that the present building situation receive the Institute's authoritative analysis, is really in the nature of a National and war-service measure. One of the Government's problems is that of securing adequate warehouse facilities, while every private housing enterprise increases the sum total of housing facilities. Much private capital is ready for these and other allied fields but is obsessed with the conviction that prices are beyond all reason. I have appointed a special committee to investigate the present and prospective needs of building; the availability of materials, labor, and transportation; the relation of present prices to those prevailing through several past years, and also to the prices which are likely to obtain during the next few ensuing years. The personnel of this Committee and that of the collaborating building interests promises a report that may have far-reaching effect.

Special Committee on Emergency Construction

Early in the summer the Committee on Emergency Construction of the Council of National Defense suggested a conference to determine the relation of the profession to the Government on the work which that Committee saw accumulating on the horizon in such volume as to foreshadow the inability of established Government agencies to handle. While authority to employ professional assistance is vested in the war-making Departments, peace conditions have led the various Bureaus into the habit of expanding their technical forces to meet a sudden emergency rather than to seek thoroughly organized outside machinery. And so in the press of the million other details, most of which have been handled surprisingly well, there was a fair presumption that bureaus and departments, without realizing the colossal character of the undertaking, might attempt to expand their machinery by taking unrelated cogs from our machines, very possibly destroying our efficiency as an aid to the Government without creating a working machine of their own. Early in November Major Starrett's Committee, acting under the authority of the War Industries Board, invited the following architects to confer with them on these baffling problems: Frank Miles Day, Charles A. Coolidge, Frederick W. Perkins, Burt L. Fenner, R. Clipston Sturgis, Owen Brainard, and the writer, as President of the Institute, ex-officio. Some of the members of this Committee remained in Washington for a week, and the most conscientious thought was given to the solution of the problems presented to us by the Committee in Emergency Construction. It is my hope that our report, which met with the full approval of that Committee, may soon be released for publication to the profession.

In a very sketchy way I have endeavored to touch here and there the high points of the Institute's war service, and I only want to add that many of the details are quite as exacting and quite as interesting. For such measure of success as has come to the officers of the Institute, full credit should be given to a magnificent spirit of unselfishness and patriotism on the part of our members, which makes me proud to sign myself,

Your obedient servant,

JOHN LAWRENCE MAURAN, President
Letters from an American Architectural Student in France

En Repos, May 29

You know I said in my last letter (which maybe you never got; I have written five, this being the sixth) that I was going to stop writing weekly letters to you and try to do my duty and at least commence answering letters and writing others that I should. But things are different here, one does what one can, where one can, when one can. Here I am, dutifully writing you. Why? Because I have an inspiration to write to you. The others can wait. Dukes, Marquis, Generals and Gentry, my family and country before all. Why am I inspired? Because I have been thinking a great deal lately—more than I have ever thought before. This war makes one think, not necessarily of blood and thunder, but of one's fellowmen, and, I am ashamed to say, of—oneself. Do not think that my thoughts are depressing—far from it. Being at the front in France is somewhat of a mental bath—one sees things in such a different light. Of course, it makes one serious, after a fashion, but then there are many humorous touches to it, some grim, some ludicrous.

The division of the army to which we are attached has just figured in an exceedingly bloody fight (about which really the one for which I am fitted? Sometimes I wonder. Here we all are here to see it with me. The others can wait. Dukes, Marquis, Generals and Gentry, my family and country before all. Why am I inspired? Because I have been thinking a great deal lately—more than I have ever thought before. This war makes one think, not necessarily of blood and thunder, but of one's fellowmen, and, I am ashamed to say, of—oneself. Do not think that my thoughts are depressing—far from it. Being at the front in France is somewhat of a mental bath—one sees things in such a different light. Of course, it makes one serious, after a fashion, but then there are many humorous touches to it, some grim, some ludicrous.

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LETTERS FROM AN AMERICAN ARCHITECTURAL STUDENT

This is not a Napoleonic campaign of brilliant battles and glory for the victor. There is glory, though, really here, but not according to popular conception. Each one does his part, or should do it, and I feel I should do mine.

Do not let this letter worry you. If it does, throw it in the fire. And next week I am going to write a regular "Frederick Palmer-Irvin Cobb" account of the fight, which may find a place in the family archives. If I could, I would write an epic poem about "my first battle!"

My text has been something about "being weighed in the measure and found wanting" in my own estimation—not other people's.

En Repos, At the Front, June 4

The day before yesterday your letter of the 17th came, and today that of the 10th, so you see that the mail in this country does not go according to Hoyle. . . .

I have kept you waiting too long for the account of the fighting I have seen. Now that we are "en repos," I can look back and tell you, as clearly as I ever will be able to, the story of the attack on ——— from my point of view. In order to better understand, I will outline as fully as I can the military situation. The Germans have for a long time been holding quite a good-sized hill, Mt. ———, which was of great value to them, giving them wide observation and command. The hill overlooks quite a wide valley which narrows toward the north. The French were in the valley at first, but, after five attacks, had obtained a good footing about half way up the hill and were in this position when we arrived. We were billeted in a town across the valley; this was our headquarters.

From there we went out in twenty-four-hour relays. One run was to a little town in the woods in the valley in which there was a "Poste de Secours," and the other was across the valley, right up to the French communication trenches. This was quite a hazardous run, as you will soon hear.

As the Germans were in concrete dugouts 30 feet under ground, it required quite a deal of prying to get them out. I will show you on a good map when I get home. Try to buy a large-scale one of the French front, if possible. For almost twelve days we had been doing "ordinary work" on the two runs in twenty-four-hour shifts, always expecting and waiting for the big attack. Every day there were rumors—attack at 5, at dawn. It was exactly the atmosphere, only on a big scale, of a championship football game, except that there was no time-limit—no quarter—no respite—and it was a game of life and death. The preparations are accordingly in some ways more exciting than the actual fighting. The artillery fire had been steadily increasing every day, and the roar of the big naval guns shook the whole town like a sort of continuous earthquake. (There is no glass left in the windows of the towns behind the lines, on account of the concussion.)

The observation balloons ("saucisses") were becoming more numerous and were being drawn more toward the lines. I stood on a little hill one evening and saw them from horizon to horizon, at intervals of about half a mile—uncouth, gigantic eyes from which nothing is hidden. Of course, the aeroplanes increased on both sides, both observation flyers and fighters, the fighters going along in flocks always attended by those little white puffs of smoke—shrapnel fire. I have never seen one brought down by an anti-aircraft gun, yet they are continually fired at. Finally we got the word—extra gas-masks were passed around—the hospitals were entirely cleared of wounded, and everything was gotten ready for that great scarlet stream which invariably bubbles forth in these times.

I was sent as orderly to the long run. My preparations were simple—sweater, raincoat, chocolate, books, and camera completed my outfit. We left town early in the morning and crossed the valley to a road near the base of the hill. There we had a long wait, practically all day long. The Morrocan Division was to storm the hill at 4.30 P.M., and ours to attack toward the left at 4 the next morning. Our wounded were to be taken from a communication trench ("boyaus") about 2 miles beyond the woods where the cars were picketed. This was a road. There were heavy batteries on both sides in the woods, intermingled with innumerable "75's." It was all right going for about half way. After that the road ran in the open, and we had to run the gauntlet of the German guns. This would not have been bad but for the fact that that road was the only means of communications to the lines—and the Germans knew it, and we had positive proof that they knew it, owing to the exactness of their range.

Toward 4 P.M. that day, the Artillery increased until it was one solid wall of sound. The hill was entirely obscured by smoke from the shells falling on it. I was up at the "boyaus" the whole time, and we had to sit tight, as the Boches were replying with shrapnel and high explosives.

At exactly 4.25 P.M., the Morrocanas climbed out of their trenches and attacked the hill. Through glasses we could distinguish the men from the officers. They swept everything before them; the Boches retreated quickly and the hill was won—all in less than two hours. Then the wounded started to come back in streams, choking the hill with the "boyaus." I could write chapters on every sentence in this letter, but you see it is really impossible—you must wait until I get home.

Toward dusk, the artillery preparations for our Division's attack commenced. It was deafening and kept up all night long. All the time, wounded, whom we had to carry down, were coming in from minor trench fighting. There was no sleep that night, and the road itself was a regular "Graphic Picture." The gas-masks were so numerous that there was a constant light in the sky. It was drizzly and pitch dark, except for those dazzling glares. As we went down the road on one side, reinforcements, guns, food, and supplies were coming up on the other. To make things more interesting, the Boches were sending in plenty of shells, and we had many close shaves, but I have not room to write about them—I shall never, as long as I live, forget that road. At times we would be in the pitch dark, and then the guns would blaze away, and we could see, silhouetted against the light, battery after battery moving up, and all "75's."

The drivers were standing in their stirrups and lashing the horses as they tore along, like fire-engines in pictures, yelling and swearing, the guns, rockets, and the scream of the shells and the whine of the shrapnel, all contributed to the night's entertainment. It was a real thriller.

On the trips, I had to get out and walk along the
road to find the shell-holes that had been made during our absence. That was really exciting and a most unpleasant sensation, for it was slow work and dangerous. Work never seems dangerous when things move quickly. Once, when we got back, the Boches were firing shrapnel over the "boyau," and we did some quick diving for the dugout. We had to sit there until it was over. There is a bang, then a whine and then the bullets come raining down on the roof. An ordinary shell can be avoided by throwing oneself on the ground, but shrapnel bursts in the air and literally rains death over a wide area. They say there is nothing like it for breaking up the morale of the troops. I believe them!

On another trip I noticed, or rather sensed, a commotion in front of the car and heard a strange mixture of French and German oaths. I soon realized that we had run into a batch of German prisoners. I was sorry that I could not see them—German prisoners are still objects of great interest to me. They are becoming a scarcity. The French soldiers, like the Canadians, merely smile and say "no more Kamerades." Germans are lucky to be taken prisoners.

Oh, there were many, many happenings on that bit of road that night—I'll tell you all, all about them. Each one would have furnished excitement for a week at home. At 4 the next morning our Division attacked after a terrible "tirde-barrage," or curtain-fire attack. About two hours later, we worked like slaves hauling wounded. The "boyau" was filled to overflowing. The wounds were bad. We got many first-hand accounts of the attack—it hadn't gone well. The Germans, who had retreated the night before from the Morroccans, had doubled around and were waiting our Division with machine guns, and they checked the attack with these. One time, I had started off with a full load of wounded, when a man came running across the field waving his hand for me to stop. His face was very red—I thought from running. As he came near, I saw that his face was entirely covered with blood, just eyes peering out of a gashly red mask. He had been struck by a machine-gun—bullet entered one cheek and came out of the other. His head was tied up in a rag which was almost indistinguishable, even at a short distance. I took him with me on the front seat; he continued to bleed profusely. He told me a great deal about the fight. All the officers were killed or mortally wounded. The Boches simply shot them to pieces with their "mitrailleuses." He was just one of many. I don't know why he should stick so in my memory more than the others. I thought I had become callous, but one can't, even in this war.

Suddenly the stream of wounded dwindled off; it was almost uncanny and ominous. We waited all that day, but no more came. Later we found out why. The Germans had been turning their machine guns on the "brancarders" who went out in no-man's land to gather in the wounded—absolutely prevented any rescue work. Civilized warfare! Yet the worthy pacifists are allowed to preach their doctrine unmolested. We waited several days, and they, the wounded, were never brought in. Finally, we were relieved—our division went "en repos" and we went with them. To the best of my knowledge, those wounded, if they are alive, are still out there in no-man's land.

Few seem to realize our debt to France and the Allies. Can we ever pay it? Often, I want to join the French Army and take my chance with the rest, to satisfy my conscience. Heaven knows, after one catches a glimpse of it, this war, this modern fighting, holds no attractions, save that one great idea of doing one's bit, no matter how disagreeable it may be. It is this idea which is mainly responsible for the salvation of civilization. . . . In fact, I never think ahead any more—today is the day.

Now that we are having a most wonderful "vacation," I have not a care in the world. It is a beautiful country, fine weather. We play soccer with the French soldiers of our Division, go to their regimental concerts, and live on the fat of the land, as our cook is the best in France—was a chef in Vienna before the war. I will write again and tell you all about the time I have been having. It won't last long, for next week we go back to the real front and listen to guns and live less like humans.

Proposed City-Planning Commission for Los Angeles

Whereas, This Southern California Chapter of the American Institute of Architects, appreciating the need of a more efficient constructive policy for the physical development of the city of Los Angeles, and recognizing the demand from many sources for such city planning, and

Whereas, Having taken up the study of the subject in conjunction with several of the civic organizations, and from such study coming to the conclusion that it would be for the best interests of the city and its citizens from points of governmental efficiency, financial economy, and esthetic reasons that a survey should be made showing the present physical conditions of the city and its needs, followed by the drafting of a comprehensive plan outlining the future development, and

Whereas, It is believed that this work will be best accomplished by the creation of a new department, governed by a commission as a unit to the present official government, be it therefore

Resolved, That this Chapter, in regular session assembled, November 13, 1917, petition the City Council of Los Angeles to take the necessary measures toward drafting an ordinance for the creation of a city-planning department, and when so done to submit a copy of the same for consideration to this organization, the City-Planning Association, the Municipal League, the City Club, and other civic organizations that may be interested, and be it further

Resolved, That after this ordinance has been drafted a hearing be granted by the Council to the above named societies for the purpose of considering its provisions and making the same an official ordinance.
### Structural Service Department

**D. Knickerbacker Boyd, Associate Editor**

**PAINTS AND PAINTING, GLASS AND GLAZING, AND CONCLUDING SECTION, 1917**

**INDEX TO SUBJECTS TREATED IN THIS ISSUE**

(For index of materials previously treated, see the General Index, page 657.)

| 12A | Associations, Societies, and Allied Interests. |
| 12C | Treatments and Coatings for Metals and for Walls and Floors, Exclusive of Wood. |
| 12D | Wood Preservatives, Shingle Treatments, and Fire Retardants. |
| 12E | Painting, Varnishing, and Finishing in General. |
| 12F1 | Glass and Glazing in General. |
| 12F2 | Wire Glass, Roof Openings, Vault Lights. |
| 12F3 | Leaded and Decorative Glass. |
| 12F4 | Store-Front Construction and Store Fittings. |
| 12F5 | Glassware and Glass Products. |

#### CONCLUDING Section

| 12G | Schoolhouses, Grounds and Equipment. |
| 12H | Farm Buildings, Accessories, and Rural Engineering. |
| 12J | Workmen's Homes, Workmen, Industry, Safety to Life. |
| 12K | Acoustics and Sound Transmission Prevention |

### 12B Research, Tests, and Paint Materials

Reference was made under 118 to investigational work, with respect particularly to the preservation of iron and steel, which has for years been conducted by the American Society for Testing Materials and the Paint Manufacturers' Association of the U. S., separately and in cooperation. The U. S. Bureau of Standards has also made investigations and is conducting tests. The progress reports and publications pertaining to these activities constitute a most interesting story, even to laymen.

In connection with this section see Waterproofing and Dampproofing 11D, also Bituminous Materials 11C2.

1. **U. S. Bureau of Standards**

   The following excerpts are given from the current Report of the Bureau, 1916.

   (a) There are a number of apparently very important and little understood physical and chemical problems relating to paints which demand investigation by an experienced and able chemist. Among these phenomena may be mentioned apparent great differences in the effects of different liquids on the surface of finely divided solids, such as pigments, changes in viscosity or plasticity of paints in keeping, or on addition of substances which are, so far as known, chemically inert.

   (b) The paint-exposure tests, begun over a year ago, are in progress, but several years may elapse before conclusions can be drawn. A record will be kept by means of photographs and inspection of the test panels, which, in three kinds of wood, have been painted with a number of well-known brands of white paints for outside exposure.

   (c) A method for the determination of oil and resin in varnish ... and the detection of resin in driers ... has been worked out at the Bureau, which is believed to be more reliable than any previously published method. (See Technologic Paper No. 66.)

   Serial No. 12  667

   **American Society for Testing Materials**

   (a) Committee D1 on Preservative Coatings for Structural Materials, P. H. Walker, Chairman, Bureau of Standards, Washington, D. C., is one of the dominating factors in this country with respect to all matters concerning paint and other coatings. It consists of ninety-one members drawn from authorities in the producing and non-producing fields, and includes representatives from the Bureau of Construction and Repair, U. S. Navy, Underwriters' Laboratories, Maintenance of Way Divisions of Railroads, Paint Manufacturers' Associa-
4 Paint Manufacturers' Association of the U.S.

The Association maintains an Educational Bureau, instituted in 1904, which in 1906 subdivided into three sections: A Scientific Section to have charge of research work and demonstration; a Professional Section to have charge of lecture work; and a Publicity Section to have charge of newspaper, circular, and similar work.

(a) In "The Educational Bureau—A Résumé of Its Activities from Its Establishment to the Present Time (1915)", will be found historical data concerning various tests conducted by the Association or in cooperation with the U. S. Forest Products Laboratory, the Chemical Laboratory of the Southern Cypress Manufacturers' Association, colleges, technical instructions, and others, at Fargo, N.D., Pittsburgh, Pa., Atlantic City, N. J., Nashville, Tenn., Washington, D.C., Manhattan, Kan., St. Louis, Mo., and elsewhere.

An analysis of all the tests at different stages are published in one form or another by the Association and may be found on the list of publications, with prices, obtainable from its Secretary. Many of them are also referred to in the Proceedings of the A.S.T.M. and other publications, particularly in (d) and (e).

(d) "Paint Researches and Their Practical Application," H. A. Gardner, in Paint: Specifying Section P.M.A., and Assistant Director of the Institute of Industrial Research. Dedicated, 1917, to past and present members, Educational Bureau, P.M.A.

(d) Describes the results elsewhere referred to and draws deductions to date from the results; contains chapters on prepared paint and pigment industries, physical characteristics, etc., and others that will be found referred to under the subdivisions in this issue.

(c) "Paint Technology and Tests," H. A. Gardner. Presents results of exposure tests and research work for the Scientific Section of the P.M.A. 356 pp., illus.

5 The Institute of Industrial Research

The Division of Paint Technology is under the direction of H. A. Gardner, who has long been in charge of the experimental work carried on by the Paint Manufacturers' Association, which is being continued in the paint laboratories of the P.M.A. at the Institute.

The extensive exposure tests in different sections of this country, which were conducted to determine the comparative merits of protective coatings and paint products for various structural materials, are being continued and inspected from time to time, in order that reports and bulletins may be issued and information distributed, in conjunction with important laboratory researches to determine the physical and chemical properties of oils and oil mixtures.

Advice to engineers, architects, or painters regarding the better types of protective coatings for the exterior or interior of buildings is given out from time to time without charge in bulletin form. Bulletin No. 3 describes the scope and organization of the Institute and contains a list of publications issued by it or under its auspices.

6. In "The Specifying of Paints and Varnishes," in The American Architect, Oct. 3, 1917, G. B. Heckel writes; "Beyond the painter as a basis for intelligent specification stands experience. . . . It would seem imperative, therefore that the practising architect should always in progress a series of field tests systematically examined and reported on at regular intervals. . . . Better still would it be if the American Institute of Architects, for example, through a standing committee should conduct such tests continuously for the benefit of the entire craft, issuing from time to time lists of approved brands or materials. One can easily conceive how such a committee or organization might eventually speak with authority on the entire range of products and materials. There is such an organization now in operation in New York (Building Data League) and, if wisely conducted and developed, it should accomplish much.

7. See reference to "The Specification of Oils and Pigments" (f) and (g).


17. "Chemistry and Technology of Paints," Maximilian Toch. 373 pp., illus.


12C Treatments and Coatings for Exclusive of Wood

See Preservation of Iron and Steel (1F8); Protective Coatings (1F3); Corrosion and Treatment of Metals (1.1B2), and Protective Coatings (11B3). Also, as of interest, see Floor Treatments and Coverings (104) and referenceto Committee on Treatment of Concrete (6).

1. In "Paint Researches and Their Practical Application" (12B4) see Chapters VI—Paint Protection for Portland Cement Structures; VII—Paints for Metal (this includes recommendations for painting galvanized iron, and painting tinned surfaces); IX—Marine Paints (includes preservation of tanks); XVI—The Light Reflecting Values of White and Colored Paints (this includes a chart of colored samples giving the coefficients of reflection of various wall colors compared with a block of magnesium carbonate).

2. Lefax Data Sheet, 6–224, "Paints for Metal Surfaces," contains information from Chapter VII of "Paint Researches and Their Practical Application" (12B4).

3. See "Building Code" recommended by the N.B.F.U., 1915, for Protection of Structural Metal against Corrosion, p. 36.


5. "Red Lead Paints for Metal Surfaces," G. W. Thompson, Metal Worker, January 1917.


9. See "American Civil Engineer's Pocket Book," M. M. Merriman, 1916, for information on painting of structural steel, paints commonly used for painting steel in buildings, and paint for steel bridges.

10. See "Civil Engineers' Pocket Book," J. C. Trautwine, 1913, regarding paintcoatings for iron, zinc, bridges, and concrete.

11. See "I.C.S. Building Trades' Handbook," for information on fire-proofing and painting of steel columns, p. 120; and for painting of tin roofs, p. 312.

12. Among the Miscellaneous Rules in the "Hand Book of Fire Protection," E. A. Crosby and H. A. Putnam, on Painting and Bronzing, p. 340, which says: "Where pipes are painted or bronzed for appearance, the moving parts of sprinkler heads should not be so coated.

13. Paint for Steam and Hot Water Radiators, Circular No. 7, P. M. A., and resulting articles showing results of investigations conducted by Prof. J. P. Allen at University of Michigan (see also, 10K13) in which it is stated that "aluminum, copper, and zinc, are recommendable for use in steam systems of high pressure transmission." Results of these "Transmission Values" given also in a table on p. 1247, Kidder's Pocket Book 1916. These tests also described in "Painting School Buildings," S. B. Heckel in School Board Journal, November, 1917, in which is also described treatment of other special surfaces.


15. For labor applying waterproof paints, see "The Building Estimator's Reference Book," Frank E. Walker, Chapter IV on "Water-Proofing and Damp-Proofing," pp. 162-163.


17. In 1912, the Bureau Laboratories having been transferred to the Institute of Industrial Research, Washington, a concrete test fence was erected there for the testing of cement coatings. The general results of the tests at the end of a two-year period, with an outline of the composition of the paints tested, are given in "Paint Researches and Their Practical Application" (12B4).


19. The results of these tests are quite in line with the results obtained by M. F. Ware and Schott. (See "Paint Films as Protective Coatings for Concrete," Journal of Engineering Progress, Vol. VI, No. 3, March, 1914) in a series of paint-exposure tests made upon exterior concrete surfaces.

20. The Building Data League (1A3) has issued the following:
(b) "Standard Specifications for Damp-proofing Exterior Walls above Grade," No. 335-1.
(c) "New Letter, July 1917," 4-page digest of paper by Bassett Jones on "The Characteristics of Exterior Building Finishes as Affecting Illumination—to show the real economy in applying finish to walls and ceilings that will make them permanently efficient as reflecting surfaces and how such finishes may be produced.


24. "Paint and Painting" (12B13) contains information on Painting of Interior Surfaces of Concrete Walls above Grade, p. 395-1.

25. For references in Industrial Section applicable to this division, see: (a) "The Theories of Rust" and "a Rust-proofing Process, Patton's Ironoch," p. xvi.
(b) R. W. Protecive Products, Toch Brothers, p. xvi.
(c) "Rust-Resisting Paint," The Solvay Process Co., S. G. Solvay Co., p. xix.
(d) Inspection Service, Laboratory Services, Robert W. Hunt & Company, p. xxix.
(e) "To remedy dusting and wearing concrete floors," Liquid chemical Lapidolit, L. Sonnenborn Sons, Inc., Third cover.
12E Painting, Varnishing and Finishing in General

See also, references to Coatings, Mill-white, etc., under 12C.

1. In "The Painters and Decorators' Handbook," the P.M.A. states that the majority of high-grade paints to be purchased from reliable dealers will closely approximate the specifications of the U. S. Army, which are as follows:

- The paint must be furnished in a prepared form, ready for application. White paint must contain not less than 82 per cent nor more than 70 per cent of pigments, the balance to be liquids. The liquids shall consist of pure raw linseed oil, containing a total of not over 10 per cent of turpentine and turpentine drier. The pigment portion of the paint shall consist of white lead (basic carbonate or basic sulfate) and zinc oxide. There shall not be less than 25 per cent nor more than 50 per cent by weight of zinc oxide. Paints containing, in addition, not over 15 per cent by weight of such white pigments as barytes, china clay, whiting, asbestine, and silica will be accepted under the correct analysis attached to all packages.

2. The P.M.A. of the U. S. (12A1) issues circulars, bulletins of the Scientific Section, tabloids, pamphlets and books. Many of these are of special interest to architects and constructionists. It is suggested that a list of these publications, with prices, be obtained from the Secretary and consulted for those applicable to any particular purpose desired.

3. At its Convention, on Nov. 16 and 17, 1917, the P. M. A. of the U. S. took the following action: Practical Application (12A4), see various Chapters, including: XI - Observations on Painted Lumber; XVII - Formation and Inhibition of Mildew in Painted Surfaces; XXVI - The Application of Paints and Finishes to the Exterior and Interior of Buildings; XXVIII - The Application of Paints and Finishes to the Exterior and Interior of Buildings; XXXI - The Application of Paints and Finishes to the Exterior and Interior of Buildings. The majority of high-grade paints to be purchased from reliable dealers will closely approximate the specifications of the U. S. Army, which are as follows:

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4. At its next Convention this Association (12A5) at Peoria, Ill., Feb. 5-8, 1918, Prof. E. F. Ladd, President of the Agricultural College of North Dakota, under whose auspices the first paint-test fence in this country was erected, will deliver a paper on "The Effect of Various Climate Conditions on the Durability of Paints and Finishes." In collaboration with painting and varnishing interests, and for the purpose of obtaining scientifically reliable and uniform data on the performance of paints and finishes under varying conditions, the Association has, by action of its Scientific Section, tabloids, pamphlets and books. Many of these are of special interest to architects and constructionists. It is suggested that a list of these publications, with prices, be obtained from the Secretary and consulted for those applicable to any particular purpose desired.

5. The "International Association of Master House Painters and Decorators" issues monthly "The Painter and Decorator," its official organ. "The artists and craftsmen of this country and that of any country are bound to be modest about the labors of their hands, or they will be led to believe that the hand is not the hand of one who takes into account the result of the work." In collaboration with painting and varnishing interests, and for the purpose of obtaining scientifically reliable and uniform data on the performance of paints and finishes under varying conditions, the Association has, by action of its Scientific Section, tabloids, pamphlets and books.

6. The "American Civil Engineers' Pocket Book," issues monthly "Fireproof Wood," various "The Annual Convention of the Brotherhood of Painters, Decorators and Paperhangers of America (12A7) issues monthly "The Painter and Decorator," its official organ. "The artists and craftsmen of this country and that of any country are bound to be modest about the labors of their hands, or they will be led to believe that the hand is not the hand of one who takes into account the result of the work." In collaboration with painting and varnishing interests, and for the purpose of obtaining scientifically reliable and uniform data on the performance of paints and finishes under varying conditions, the Association has, by action of its Scientific Section, tabloids, pamphlets and books.

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STRUCTURAL SERVICE DEPARTMENT

North Carolina Pine Association issues:
(2) "North Carolina Pine for Architects and Contractors," 15 pp., colored illustrations, table of prices, and adaptability to staining and enameling.
(3) "Your Home Beautiful," 16 pp., colored illustrations of stained and painted interiors.

11. The following publications, some of which issued by manufacturers of the flooring themselves, and one by avarnish association, refer to the finishing of wood floors, the remaining contact, and the application of other finishes.
(a) "The Building Estimator’s Reference Book," F. R. Walker.
(c) "In "Handbook for Architects and Builders," published under the (s) "Home Builders’ Book, 24 pp., color plates.
(d) "Lumber and Its Uses," 5Bi场上. See "Lumber and Its Uses." 5Bi场上.
(e) "In "Lumber and Its Uses," 5Bi场上. See "Lumber and Its Uses." 5Bi场上.
(f) "In "Lumber and Its Uses," 5Bi场上. See "Lumber and Its Uses." 5Bi场上.
(g) "In "Lumber and Its Uses," 5Bi场上. See "Lumber and Its Uses." 5Bi场上.
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(z) "In "Lumber and Its Uses," 5Bi场上. See "Lumber and Its Uses." 5Bi场上.

12. For "Specifications on Painters’ Work," and Notes on Painting Specifications, see Part II of "Painting and Building Construction and Superintendence," F. E. Kidder, which treats of painting, repainting, and refinishing, with various materials described in the Specifications which follow (11 and 12).
(b) "The Painting of Green Plaster," July, 1915.
(c) "High Grade Varnishes; Their Manufacture and Use," C. T. Bragg, March, 1915.
(d) "Fumed Oak," C. E. Morrell, November, 1915.
(e) "Transparent Finishes," E. G. Schurig, July, 1915.
(f) "Lefax Data Sheet, 6–303," Light-Reflecting Values of White and Oil Colors.

19. See "Civil Engineers’ Pocket Book," J. C. Trautwine, 1913, for information on paints and varnishes, and to other painters and Their Preparation and Practice.
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS


61. See The Journal of the Franklin Institute for various papers read before the Institute on glass in general.

62. For references in Industrial Section applicable to this main heading:

(a) Architectural Vernacles and book "Rare Woods," Murphy Vernacle Co., p. xvi.

(b) Statement as to painting and staining of white pine, White Pine Bureau, p. iv.

12F1 Glass and Glazing in General

(a) The National Glass Distributors Association (12F8) has issued, 1916, "Glass, Specifications and Tests," Prof. A. Silverman, which gives the commercial thickness and size of commercial thickness and size terms used in designating the different grades and qualities, the characteristics of which are given. It also includes notes on installation, purity, and many pages illustrating various kinds of glass and gives tables of maximum sizes, thicknesses, and approximate weights.

(b) Among the kinds referred to are: Plate Glass, including Special Qualities, Sheet and Wheel-cut Mirrored Work; Mirrors; Window Glass, including Crystal Sheet; Bent Glass; Glazing, including Appeal to Architects; Metal Store Front Components; Wire Glass, including Underwriters' Requirements and illustrations of typical patterns or surfaces; Rolled Figured Glass, with illustrations of kinds; Ornamental Polished Plate Prismatic Glass; Prism Glass; Sidewalk Glass; Skylight, Floorlight, Milk-white, Opalite, Vitrallite, Carrara, Chipping and Grinding, Enameling, Embossing, Etching Colored Glass, except the latter containing illustrations appropriate to each section.

(c) The Plate Glass Manufacturers of America (12A8) issued a 6-page booklet called "Plate Glass" which is large part similar in context to the glass-section of Glass and Glazing and bears the imprint, "Issued by Permission of The National Glass Distributors Association." It contains, however, additional material relating to Sizes and Thicknesses, under which it is stated: "Pooled plate glass is manufactured in thicknesses ranging from 1/16" to 1 1/2". The Standard product runs from 1/4" to 5/16" full. The other thicknesses (thicker or thinner) are made specially and at an increased cost. The saucer or saucer at moderate exposure. Notice is called to the need of using stand details for "art glass" glazing as mentioned under 12F2b. Wired glass protection is not the equivalent of the fire-test and shall not be less than 1/4" in thickness, and shall be greater than 3/4" in the frame. When the glass is permitted in any fire-door or fire-shutters, only clear glass is to be used. For the glazing of fire-door only wire glass shall be used.

(d) It also states "All opening protective required or permitted . . . shall be one inch projected in such rules with the consent of the N.B.F.U. Building Code; and (k) "Mechanical Engineers' Pocket Book," Wm. Kent, 1916, informing manufacturers to the necessity for labor costs and the Actual Costs of Glazing. Also contains complete illustrations.

(e) The New Building Estimator, William Arthur, contains sections on Millwork and Glass.

(f) Glass Manufacturers." Walter Rosenhain, 264 pp., Illus.


12F2 Wire Glass, Roof Openings and Vault Lights

(a) See, also, 12F1a and other references under Glass and Glazing in General.

(b) In connection with the use of wire glass, whether for windows or doors in either exterior or interior glazing, the following are to be followed is described in \( \text{CP} \). Standards Adopted, under Vertical Structural Features, with special reference to Underwriters' Laboratories' "Hollow frames for Wired Glass." Many other references to Wire Glass will be found under Exits, Stairways, Fire Escapes, etc. (4E.)

(c) The 1915 N.B.F.U. Building Code defines "Wired Glass" thus: "Glass not less than 3/4" thick enclosing a layer of wire fabric reinforcement, with the steel not later than 16" from the frame and the size of the wire not smaller than No. 24 B. and S." Gauges. It gives recommendations for the use of wire glass under several instances. See "Wired glasses" and "Fire windows.

(d) See Reports of the Committee on Fire Resisting Construction of N.F.P.A. in various Proceedings resulting in "Specifications for Construction of a Standard Building" and others therein described. Also see Index to Subjects Covered in the Printed Records under "Wire-Glass" and Fire Protection Coverings for Window and Door Openings.

(e) The Building Code of the City of New York, 1916, says: "When wire glass is required or permitted . . . for fire-doors, fire-shutters, or fire-windows, the panes shall not exceed seven hundred and twenty square inches in area and shall not be less than 3/4" in thickness, and shall be not less than 3/4" in the frame. When the use of glass is permitted in any fire-door or fire-shutters, only clear glass shall be used. For the glazing of fire-window only wire glass shall be used.

(f) It also states "All opening protective required or permitted . . . shall be one inch projected in such rules with the consent of the N.B.F.U. Building Code; and (k) "Mechanical Engineers' Pocket Book," Wm. Kent, 1916, informing manufacturers to the necessity for labor costs and the Actual Costs of Glazing. Also contains complete illustrations.

(g) The use of wire glass for stairways and other enclosures will be found illustrated and referred to in many of the publications listed under Exits, Stairways, Fire Escapes, etc. (4E.)

(h) See also, Windows, Doors and Metal Trims (118P).

(i) See List of Inspected Mechanical Appliances, Underwriters' Laboratories (3A6) for makers and distinctive characters of meshes of wired glass. The following is quoted: "One-quarter inch wired glass manufactured by the following companies is standard for protection against moderate exposure when used in sizes not exceeding 220 square inches and with neither dimension in excess of 48 inches, and provided with distinctive marking as noted. Wired glass protection is not the equivalent to that furnished by standard fire-doors and shutters except for moderate exposure. Notice is called to the need of using standard frames and saucers and glass, and to the necessity for careful inspection before acceptance, in order to obtain wired glass of the required thickness.


12F3 Leaded and Decorative Glass

(a) The National Ornamental Glass Manufacturers’ Association (1929), which publishes the “Ornamental Glass Bulletin of the U. S. and Canada,” at a meeting June 2, 1914. Resolved: “That the use of zinc, commonly known as hard metal, for the use of glazing church windows shall be discouraged on the ground that it is impractical and not a proper material to use in exterior glazing as a substitute for lead (for four reasons which follow).”

(b) That the means and methods used by some salesmen as arguments that their lead, their glass, their ventilators, their iron bars and their cement are superior to that of any other salesman’s materials is misleading and should not be countedenance by any association, since all these materials are standard, and are used by all firms who make Art Glass.

(c) See details approved and recommended by the above Association as standards of rubbings, lengths, and sizes for Art glass glazing; also details for metal sash and ventilator construction in “Handbook of Illinois Society of Architects,” 1917.

(d) The following is a few of the specifications which might be given; others will be found under 12E and 12F1, including “Suggestions and Practical Points” and “colored glass,” cathedral glass, etc., in 12E1:

- “Vitrail (Stained Glass),” par Mons. Viollet-le-Duc, translated by Leicester B. Holland, Architectural Record, December, 1912, p. 163. Illustr. Illus. English translation from the “Dictionnaire Raisonne De L’Architecture Francaise” by M. Viollet-le-Duc, of the portion forming a scholarly and authoritative treatise on stained glass. This is the first of a series of four articles comprising the entire treatise.


- “Treatise on the Art of Glass Painting,” by E. S. Suffing, 150 pp. Illus. With the cooperation of several firms. For specifications which might be given; others will be found under 12E and 12F1, including “Suggestions and Practical Points” and “colored glass,” cathedral glass, etc., in 12E1:

12F4 Store-Front Construction and Store Fixtures

The chief literature concerning latest developments in the metal and glass construction of store and shop windows is put forth by the manufacturers of either the metal or the glass, frequently by the two together. These publications generally give details for the setting of the frames as well as of the glass, which provide for ventillating, condensation and other essential features. See some of the references given under Glass and Glazing in General, particularly 12F3 and e.


(b) “English Shop-Pronts, Old and New,” Horace Dan and E. C. M. Willmott. A series of examples by leading architects, selected and specially photographed, together with descriptive notes and illustrations.

(c) “Store-Pronts and Interior Details,” W. T. Comstock, gives designs for display and details for small stores; also designs for special fronts for restaurants, cafés, banks, etc.

(d) “Store Fittings,” W. T. Comstock, contests, counter and showcase, mail-shaving, telephone-case, etc., with details.

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653
The Carnegie Foundation for the Advancement of Teaching in its 1916 report covers studies undertaken in Agricultural Education. There is nothing of structural significance.

6. The National Educational Association has a Committee on Standardisation of Schoolhouse Planning and Construction, of which F. Irving Cooper, Architect, Boston, is Chairman. The work of this Committee is not intended to hamper or bind freedom of design by architects but to present to the Association certain definite standards in connection with details of construction in minimum requirements for space for state school activities.

7. Accounts of investigations undertaken and various results accomplished along the above lines, and other matters of interest, will be found with frequency in "The American School Board Journal" and "The House Beautiful," as well as in the annual "References on School Architecture and Sanitation" by J. K. Freitag, 1912, pp. 740-756, treat of fire-resistive construction and contain plans and tables.


9. See "Building Code" recommended by the N.B.F.U., 1915, states which school may be non-fireproof, p. 207, when doors should open inward, p. 36, describes and illustrates stairs and stairways, smokeproof towers and other means of escape, and gives the height of staircases in accordance with fire regulations.

10. See other references under Exits, Stairways and Fire Escapes, etc., 48.


17. See Bruce's School Architecture Library, prepared under the direction of Wm. C. Bruce, Editor American School Board Journal, more for:

(a) "High School Buildings," 300 pp., Illus.

(b) "Grade School Buildings," 256 pp., Illus.


25. See "The American Civil Engineers' Pocket Book," M. Merriam, 1916, for information on floor loads for schools, pp. 715 and 721.


12H Farm Buildings, Accessories and Rural Engineering

12H1 Department of Agriculture

(a) Office of Public Roads and Rural Engineering.
(b) Bureau of Animal Industry.
(c) Bureau of Plant Industry.
(d) Forest Service.
(e) Federal Horticultural Board.

The Division of Agriculture, which are of interest to those concerned in structures, their equipment and accessories, are confined to subjects bearing upon agriculture and are centered chiefly in the Division of Rural Engineering of the Office of Public Roads and Rural Engineering, although information relating to structures of various kinds and the equipment of the publications emanating from other Bureau.

With regard to structural matters, the public service of the Office of Public Roads and Rural Engineering consists of a preparation of designs for various kinds of farm structures and equipment, the planning of water supply and sewage disposal systems.

Upon request, accompanied by a statement of the requirements or conditions to be met, a selection of the available designs which most nearly meet the conditions are issued without charge. Advice is given on all subjects relating to these subjects.

There are a number of publications issued by the Department of Agriculture which bear directly or indirectly on subjects pertaining to agricultural construction. The Division of Publications of the Department of Agriculture publishes a list of the Bulletins, etc., issued since July, 1912. Some of these publications are available for free distribution, while others, so designated, may be had only from the Superintendent of Documents, Government Printing Office, for the prices stated.

This list is revised once a year and is mailed upon request.

The Division of Publications also issues a monthly list of publications which is sent regularly to those making application for it. Reference to reports of the Weather Bureau of interest to architects, heating contractors, and owners, was made under 12C.

The Superintendent of Documents, Government Printing Office, publishes a price-list of the Department of Agriculture publications, that in Farmers' Bulletin, Department Bulletins, and Yearbook Separates. This list is available upon request, and the following is a selection applicable to the subjects bearing upon agriculture and are centered chiefly in the Division of Rural Engineering of the Office of Public Roads and Rural Engineering, although information relating to structures of various kinds.

Bureau of Animal Industry:

Circular No. 112—Designs for Dairy Buildings. 5 cents.
Circular No. 136—How to Build a Stave Silo. 5 cents.
Circular No. 195—A Plan for a Small Dairy-House. 5 cents.

Farmers' Bulletins: (Price, from Superintendent of Documents, is 5 cents each.)

No. 25—Silo and Silage. Chas. S. Plumb. 1895.

12J Workmen's Houses, Workmen, Industry, Safety to Life

1 Bureau of Labor Statistics, U. S. Department of Labor:

Commissioner: Royal Meeker, Mills Building, Washington, D. C.

The Bureau of Labor Statistics collects and collates statistics of the condition of labor and distribution of the products of labor, and the Secretary of the Department of Labor publishes such statistical information in its Annual Report.

It issues, "Monthly Review of the U. S. Bureau of Labor Statistics," and also publishes from time to time, Bulletins. No charge is made for any Department's publications in stock.

The Bureau of Labor Statistics has recently conducted a study of housing conditions in the U. S. A full report is now being prepared for publication, and an article in summarization and anticipation of this report appeared in the November issue of the "Weekly Labor Report," in which also will be found "Employers' Housing in the U. S. A."

2 The U. S. Bureau of Mines (SA)

(a) Bulletin No. 87: "House for Mining Towns," described under 9L.
(b) Technical Paper No. 116: "Miners' Wash and Change Houses," described under 9L.
3 The Journal of the A.I.A., September, 1917, contains a bibliography or selected list of references on industrial housing, and in that and other recent issues of the Journal appear what are perhaps the most important contributions to this subject now to be found.

4 National Association of Real Estate Boards

Secretary: Tom. Ingersoll, Minneapolis, Minn.

At a meeting of the Housing Committee it was: "Resolved, That we, the Executive Committee of the National Association of Real Estate Boards, in regular meeting assembled, in the city of Indianapolis, Ind., on Oct. 23, 1917, approve of the Government of the United States financing the building of workingmen's homes as a war-measure in munition centers, provided such homes are built in a substantial manner."

5 The International Association of Industrial Accident Boards

Sec'y: Royal Meeker, Mills Building, Washington, D. C.

This Association, the U. S. Department of Labor, the various state labor agencies, the American Federation of Labor, and the six new named bodies are concerned with the subject of accident prevention, safety to life, and improvement of conditions in the building trades. Their activities will be recorded in subsequent issues.

6 American Museum of Safety

Secretary: Wm. J. Moran, 14-18 W. 24th Street, New York City.

7 National Safety Council

Secretary: W. H. Cameron, Continental and Commercial Bank Bldg., Chicago, Ill.

8 National Association of Manufacturers of the United States of America

Secretary: G. S. Boudinot, 30 Church Street, New York City.

9 The National Association of Builders' Exchanges, of the United States of America

Secretary: E. M. Tate, Fulton Building, Pittsburgh, Pa.

Sixty-three Builders' Exchanges in various cities throughout the country, some of which issue Bulletins and similar publications, are affiliated with the National Association. This Association has cooperated with the Institute in the preparation of "The Standard Documents." For Prices and Titles, and list of Dealers see the Industrial Section, page xxxix.

10 The Master Builders' Association, of Boston

Secretary: W. H. Sayward, 166 Devonshire Street, Boston.

Issues "Monthly Letter" to members and others interested.

11 American Federation of Labor (Building Trades Department)

Secretary: Wm. J. Spencer, A. F. of L. Building, Washington, D. C.

The entire resources of the Department have been placed at the disposal of the Council of National Defense in connection with the war program of the Government, in the belief that a recognition of workmen's rights and standards should be maintained in order that normal conditions may prevail in the building industry, when the war is over. In various states there exist building trades councils, and the following is a list of the affiliated Internationals which comprise the Building Trades Department:

(a) International Association of Heat and Frost Insulators, and Asbestos Workers: Sec'y: T. J. McNamara, 473a Natural Bridge Avenue. St. Louis, Mo.
(b) Bricklayers, Masons and Plasterers' International Union - Sec'y: Wm. Dobson, United Building Trades, Indianapolis.
(c) International Association of Bridge and Structural Iron Workers: Sec'y: Harry Jones, 472 American Central Life Bldg., Indianapolis, Ind.
(d) United Brotherhood of Carpenters and Joiners: Sec'y: Frank Duffy, Carpenters Bldg., Indianapolis.
(e) International Brotherhood of Electrical Workers: Sec'y: C. P. Ford, Reich Bldg., Springfield, Ill.
(g) International Union of Steam Engineers: Sec'y: J. G. Hansen, 633 Yale Ave., Chicago, Ill.
(h) Granite Cutters' International Association of America: Pres.: James Duncan, Hancock Bldg., Quincy, Mass.
(i) International Union of Wood, Wire and Metal Lathers: Sec'y: R. V. Brands, Superior Bldg., Cleveland, Ohio.
(k) International Union Slate and Tile Roofers: Sec'y: James Duncan, Hancock Bldg., Quincy, Mass.
(l) International Brotherhood of Composition Roofers, Dampers and Waterproof Workers of United States and Canada: Sec'y: C. P. Ford, Reich Bldg., Springfield, Ill.
(m) United Brotherhood of Carpenters and Joiners: Sec'y: Frank Duffy, Carpenters Bldg., Indianapolis.
(n) International Association of Heat and Frost Insulators, and Asbestos Workers: Sec'y: T. J. McNamara, 473a Natural Bridge Avenue, St. Louis, Mo.

12 K Acoustics and Sound-Transmission Prevention

It had been the intention to publish a list of references on this important subject, but the collection has increased to such an extent that it is impossible to give space here for a proper listing. The S.S.D. possesses a complete list of references, beginning with discussions in the 16th Congress of the U. S., 1821, and the 21st Congress, 1830, taken part in by Charles Bulfinch and Wm. Strickland, Architects, down to the present writings of Wallace C. Sabine, W. R. C. Rowan, Alexander Cooper, and others, copy of which list will be furnished upon request to the Journal.

For references in Industrial Section applicable to this division, see:

(a) Assurance of Safety to Life, National Automatic Sprinkler Association, p. v.
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Some of the Prominent Buildings Equipped With

Acoustile

THE PERFECTOR OF ACOUSTICS

A permanent wall and ceiling treatment GUARANTEED to produce perfect conditions for hearing in all classes of buildings, both old and new, without marring the appearance or altering the design.

Acoustile meets all the requirements of the architect. It is sanitary, fireproof, and durable, and its surface permits of any scheme of decoration desired.

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In the design of certain types of buildings, the architect has heretofore had but two courses open—to disregard acoustics or to consent to undesirable structural changes. It is now possible—through the development of acoustical correction on a scientific basis—to obtain good acoustics in either new or existing buildings without restriction of design or perceptible change in appearance.

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Many pigments actually stimulate rust-

Some paint ingredients speed corrosion! No single pigment or prepared paint gives fullest protection against all rust stimulating agents, and at the same time adequate resistance to paint-destroying agents that cause an early breakdown of the paint film, permitting rusting agents to attack the metal.

Utmost protection against rust and utmost durability of a protecting paint body is only obtainable by a painting process.

Patton's Ironhide is a two-paint, rust-proofing process. Both paints are inhibitive, impervious to all rusting agents. Each paint has special qualities, filling properties, adhesiveness, elasticity, resistance to abrasion and vibration and inertness to paint destroying fumes, gases, acids, etc. Each is a scientific, highly standardised paint.

In combination they provide an enduring, rust-proofing armor which maintains protection at lowest cost.

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"The Theories of Rust"—and a full description of Patton's Ironhide, the rust-proofing process. This book is worthy of your files and will command the respect of your own technical knowledge. Write for it today.

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To treat their creations with inferior finish, to permit cheap varnish to cover and soon ruin them, to leave the job to those who have no enduring interest in it, is like abandoning a child to shift for itself.

Murphy Varnish
"the varnish that lasts longest"

insures architects' work to their clients and to all who may become such. Structures of beauty and utility do not remain such unless protected by good varnish, and beautified by a finish that may be rubbed to any desired lustre.

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It has demonstrated, and continues to demonstrate, that it is the most satisfactory material for interior plastering. For true and even surfaces and angles, Hydrated Lime Plaster stands supreme. It is a slow-hardening plaster, and does not harden before the mechanic has time to do his work properly. All ridging due to lath expansion is easily eliminated without expense.

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It is pure white and will not stain stone, terra cotta, tile or brick.

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Stucco buildings may be so attractive architecturally they make a reputation for an Architect almost overnight.

The United States Bureau of Standards Tests show conclusively that stucco on Metal Lath is a durable, desirable and economical type of building construction.

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We expect to receive many expressions of confidence and satisfaction. Naturally, all such will give us real pleasure—for we know the value of Tile and the reputation it deserves.

But we also expect to receive some letters containing specific criticism—possibly based upon conditions of which we are ignorant but which we may, in large measure, be able to correct. For all such we shall be grateful, for no service can be perfected—no matter what the wishes or intentions of those behind it may be—unless all conditions are known.

We are determined that Tile shall render a completely satisfying service, so far as inevitable human limitations make it possible. We want facts—not flowers—and upon the facts which we expect to receive from the architects of the country we expect to build, more firmly and substantially than ever before, a service that shall leave nothing to be desired in the purchase, installation and use of Tile.

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has been for more than a quarter of a century, and will remain, the standard of excellence in every respect.

It has received the highest award wherever exhibited, and is being furnished to all those who consider quality as well as price, at exceptionally low figures.

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Sweet's Index Pages 1726 and 1727.

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There's a size "Humphrey" for every need, for every home—also for Schools, Colleges, Clubs, Y. M. C. A.'s, Factories, small Hotels and Apartment Buildings. Each the most dependable and efficient for the purpose. Write us. The

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has been developed to meet the hot-water needs of everyone. It is the most remarkable gas water heating appliance ever invented. A constant promoter of comfort and convenience. A sentinel that stands silently in the basement, or any out of the way place, of any building, yet instantly ready to rush hot water to anyone on demand.

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Our Service Department is at your service. Please call upon it for any information.
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always of one quality—the highest—
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A bathroom containing the original, one-piece built-in bath, the "Viceroy" produced by KOHLER OF KOHLER, is sure to be a permanent source of delight to your clients.

This bath, illustrated below, with its one-piece construction, graceful lines and KOHLER pure white enamel, has become America's foremost built-in bath. And leading architects are specifying it for buildings of all classes that require the best in plumbing ware.

The KOHLER line includes lavatories and sinks of the same distinctiveness.

The name KOHLER, in faint blue in the enamel, is our pledge that each piece of KOHLERWARE represents first quality.

Write for our new book, "KOHLER OF KOHLER."

KOHLER CO., Founded 1873 Kohler, Wis.

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The Endurance Test —

has definitely proved by actual exposure, that the architect can place Keystone Copper Steel Sheets anywhere that sheet metal is used and be assured of the maximum of wear and resistance to rust.

The copper-steel alloy has established its superiority for Black and Galvanized Sheets and Roofing Tin Plates. If you are interested in highest quality metal roofs and more durable sheet metal work, you should know about Keystone. When this material is used it is indicated by the Keystone added below regular brands. Shall we send booklets?

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We have one of the largest and best equipped plants in the country for cutting this class of work, and competent setters and proper equipment for erecting it in any part of the country. Architects who entrust the execution of their designs to us may feel certain of securing only the best materials, honest and intelligent workmanship, and a refined interpretation of the detail drawings, as evidenced by the approval given our work by so many of the leading members of the profession in this country.

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Manufacturers and Builders of Monuments and Mausoleums

Quarry and Works: BARRE, VERMONT
198 BROADWAY, NEW YORK
The “Heart” of a Filter is its ability to keep the filter-bed clean.

The cut on the left shows the bed of a L-M Filter passing through the Loomis Cutting Plate under the action of the washing current of water.

The cut on the right shows the bed scouring or boiling in the entire filter chamber. Every particle is in motion. Every part of the bed is loosened up and cleansed.

**Loomis-Manning Filters**

Have produced remarkable results because of this very thorough and simple system for keeping the filter beds in clean, effective condition, which is brought about entirely by the flow of water through the filter as directed by our Manning Single Controlling Valve.

**A Few Recent Contracts**

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<td>Joseph Evans Sperry, Esq.</td>
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<td>Sea View Golf Club Swimming-Pool</td>
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**Glass Enameled Steel LAUNDRY CHUTE**

that *absolute isolation en route* is the only means of preventing the distribution of dangerous infections from soiled linen.

The Pfaudler Enameled Chute is the only isolated conveyor which can be thoroughly cleansed.

To cleanse it, a valve is turned; a shower of hot water flushes its non-absorptive, glossy interior, and flows into the sewer; that is all, for it cannot rust.

Could anything be easier or more economical?

*Let us tell you more about it*

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Industrials Section

Journal of the American Institute of Architects

December, 1917
THAT is the area of the Lupton Rolled Steel Skylights over the 1600-foot craneway between these two buildings of the Ford Factory. Two trains of 20 box cars each are loaded and emptied there every working day.

But its bigness is the least important point about this Ford installation. Lupton patented Rolled Steel Skylight costs more to manufacture than any other skylight made. Why was it chosen here?

For two reasons:
1. Durability,
2. Water-tightness.

Durability means freedom from glass breakage and corrosion. The glass in Lupton Rolled Steel Skylight does not touch metal at any point, neither is it putted. Instead, it is held between resilient strands of specially-saturated oakum, which allow expansion and contraction to take place unhindered. Corrosion is minimized by making all parts exposed to weather of copper or brass.

Water-tightness is likewise insured by the use of oakum, which does not shrink or crack.

Condensation is carried by sloping oakum strands to the gutter formed by the skylight bar itself, whence it drains to the roof below through drip holes in the copper curb apron.

In a word, Lupton Rolled Steel Skylight is the most permanent skylight made, and the best protection for valuable equipment or products under it. The higher price is an investment, making it the cheapest in the end.
ROBERT W. HUNT & COMPANY
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ENGINEERING SERVICE
Our engineers are prepared to make investigations and reports upon existing structures, operations and processes, to supervise construction and conduct tests on power plant equipment. See January issue, p. VIII and October p. X.

INSPECTION SERVICE
Inspection and testing of steel and iron products are a necessary, responsible part of all engineering work. Our inspectors are stationed at manufacturing plants to obtain the best materials of construction for our clients. See May issue, p. XXXVII.

LABORATORY SERVICE
Cement, Physical and Chemical Laboratories maintained at all our offices are effective and necessary adjuncts to the Engineering and Inspection Divisions, to determine the character of materials needed by architects and engineers. See July issue, p. XXIV.

Robert W. Hunt & Company's staff of Engineers, Inspectors and Chemists located in the principal cities and manufacturing centers of North America and Europe, as shown on map, offer their advice and services to architects and engineers.

MAP SHOWING HEADQUARTERS AND DIVISION ORGANIZATION OF ROBERT W. HUNT & CO. IN NORTH AMERICA
(o)—Offices. (.)—Mills, Shops, and Manufacturing Plants where Inspectors are Permanently Located.
This illustration represents the Seal of the City of York, Pa. It is one of many features used in the new School Building now being erected at Mason and Park Avenues.

The detail was worked out from a small print such as is used on the letter heading of the Board of Education, with the valuable assistance of the Architects and our modeler.

There is no material as appropriate as Architectural Terra Cotta for work of this kind. Clay in its plastic form enables the skilled hand and mind to produce results unobtainable in any other material.

"KETCHAM TERRA COTTA" gives results

O. W. KETCHAM
Home Office: 24 South Seventh St.

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THE QUINCY MARKET WAREHOUSE

"T" WHARF, BOSTON, MASS.

Will be equipped with

A. B. SEE ELECTRIC ELEVATORS

Three Heavy Duty Geared Traction Type
Three Heavy Duty Drum Type

Made in accordance with special specifications for Cold Storage Plants

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- Naval Yard Warehouses
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- American Sugar Refining Co., Brooklyn, N. Y.

A. B. SEE ELECTRIC ELEVATOR COMPANY

220 Broadway
New York City

Boston Philadelphia Hartford Washington Baltimore Cleveland Montreal
Why Not Masonry Construction?

May we offer a suggestion? We face a war condition. It is for the American architect to circumvent it. Steel is scarce and high and must long remain so. That good, old-fashioned masonry construction offers a way out of many a bad situation is a thought publicly sponsored by Mr. Cass Gilbert and others.

Even in ordinary times, much steel is used where masonry would be better and cheaper. Steel construction has become, perhaps, too much the idiom of American architecture. St. Peter’s was built without it and so have been many large American structures.

If the tremendous ingenuity of the American architectural profession be directed to the solution of the present problem by the use of true masonry construction (even where in many cases it seems impossible, offhand) we believe that great results will soon be apparent—results having, as an important by-product, a permanent gain to American architecture.

We shall welcome comment on this suggestion by any member of the profession.
THE EXHIBIT ROOMS OF
CRANE CO.

The Opening of the New York City Exhibit Rooms of CRANE CO.,

23 West Forty-fourth Street
22 West Forty-fifth Street

Is the High Mark in the Steady Development of one Feature of the Company's Branch House Service.

The Exhibit Rooms of Crane Co. serve the people in the Leading Cities of the United States and Canada named below. They are centers where all interested in Building may find what is needed for the Power, Plumbing, Heating, Ventilating, Vacuum-cleaning, Refrigerating, Water, Gas, and other Piping Requirements.

Through the Plumbing and Heating Trade Crane Co. thus offers the Distinct Advantage of Dealing with one Responsible and Adequate House.

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Works: Chicago and Bridgeport

1855—CRANE CO.—1917

VALVES AND FITTINGS

Industrial Section

Journal of the American Institute of Architects

December, 1917
HERE is shown the Dallas Trust and Savings Bank, Dallas, Texas. The Architects are Messrs. Hubbell & Greene; the builders, Watson Company of Dallas.

From grade to skyline this building is faced with Northwestern terra cotta. The plain surfaces are cream enamel, and all the ornament from doorway to cornice is enriched by treating the indentations with warm tan color, as in old ivory.

Terra cotta affords unusual opportunities for dignified and classic treatment of bank architecture. It offers permanence, great economy of construction and a surface seldom soiled and readily cleaned.

The Northwestern Terra Cotta Company offers unequalled and unlimited service to architects who are considering the use of architectural terra cotta.

THE NORTHWESTERN TERRA COTTA CO.

CHICAGO
Molecular Cohesion

PLUMBING fixtures would hardly seem to delve so deeply into the principles of physics, but the cohesive properties of Trenton Potteries Company All-Clay Plumbing is the true basis of its worth.

The intense fire to which All-Clay Plumbing is subjected causes its body and glaze to more greatly resist the wearing influences of friction caused by contact with other objects of whatever nature.

THE TRENTON POTTERIES CO.
TRENTON, NEW JERSEY
The World’s Largest Makers of All-Clay Plumbing Fixtures

There is Nothing Speculative About a Sedgwick Specification

If you have a speculative client we are candid in stating that he may have little interest in a Sedgwick dumb waiter.

For there is nothing cheap, temporary or speculative about Sedgwick machines.

But if you are planning a residence, a hotel, an apartment, a hospital, a store or any other building that needs dumb waiter service and requires permanency of service, the Sedgwick outfits will be of first interest to both you and your client.

The difference in cost between the ordinary dumb waiter and the sturdy Sedgwick outfit backed by its signal record, is reasonably accounted for by the big difference in quality of materials, in care of manufacture and in service value. The Sedgwick catalog describes all standard and special types.

SEDGWICK MACHINE WORKS
124 Liberty Street
New York
Hand Power Elevators and Dumb Waiters, Exclusively
WEBB PINK MILFORD  WEBB WHITE MILFORD  WEBB BUFF MILFORD

WEBB PRODUCTS

DESCRIPTION OF WEBB GRANITES
The Webb Pink Milford is a distinctive, warm-toned Pink granite, having a uniform distribution of clear, black spottings, which contribute to the clean, clear-cut appearance, which has made Milford Granite a famous building material. This granite does not take on a cold appearance, but grows warmer, more pleasing, as it ages.

The Webb White Milford has the same characteristics as the Webb Pink, except that the general cast of color is Creamy White, producing a clear, white appearance in the mass, without losing its warmth of tone. This granite does not darken with age, because of its unusual hardness and low absorptive tendency.

The Webb Buff Milford is a new product, similar in characteristics to the Pink and White, but having a predominating, soft-toned Buff background, which is peculiar to itself. This granite is adapted more particularly to special work, rather than to large work, as it requires careful selection and matching.

GENERAL CHARACTERISTICS
These Granites are hard, compact, close-grained granites, adapted equally well to fine mouldings and carving, or to bold members and large spaces.

COMPRESSION STRENGTH
Webb Milford Granites rank as the strongest of building granites, having an average compressive strength of approximately 30,000 pounds to the square inch.

FACILITIES AND SERVICE
The Webb Pink Granite Company owns about 350 acres of Quarry Land in Milford, Mass. All the quarries are fully equipped with Electric Power, Compressed Air, and Heavy Duty Derricks.

The large Cutting Plant is fully equipped with electric cranes and crane cars, for handling, and the most modern devices and tools for Cutting, Sawing, and Polishing granite.

The Plant and Organization are planned for Service and Fine Workmanship. Time schedules are maintained religiously, Service being our specialty.

SPECIAL NOTE.—Monoliths and blocks of large size are readily quarried and finished; the only limit as to size and weight being that of transportation.

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New Post Office, New York City. McKim, Mead and White
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The Discussion in the United States Senate of an Amendment to the Bill for the New Treasury Department Building Providing that the Plans Therefore Should Be Submitted to the Commission of Fine Arts.

NOTE.—In the effort to have the public buildings of Washington conform to the ideal of the founders of the city and thus make the Capital a place where civic beauty will spring naturally out of a coordinated plan, the Commission of Fine Arts occupies an important position, although its powers are advisory, not mandatory. In the following discussion there are revealed two essentially different points of view. These show, on the one hand, how insufficient are the powers of the Commission to effectuate the task of the architect, while, on the other hand, it is evident that the fundamental nature of the effort which seeks to safeguard Washington against unsuitable developments is becoming more and more appreciated in Congress.—Edron.

Reprinted from the Congressional Record of August 2, 1917
Here is the Government owning many buildings, some of them used for theaters, some of them used for hotels, some of them used as banks and warehouses, with a number of them used as accommodations for the business of the Government. These buildings will be used during the time of the war for the purposes on which the Senator is figuring.

I agree that, as the Senator from Nebraska [Mr. Nouns] suggested, this is such a small amount it really ought not to be discussed here. When a bill was under consideration the other day we were told that $27,000,000 was such an infinitesimal sum that one ought to say something about it. Of course, this is a much less amount, but I insist that we can get along without the new public buildings of which the Senator speaks, which are not in all the country. The private-building bill of the kind to which the Senator refers has passed the Senate for some little time, though such a bill did pass the other House providing for hundreds of public buildings. I think the chairman of the committee did not care to risk the bill on the floor of the Senate. That is the only thing I am suggesting. I do not do it in any controversial spirit.

Mr. SWANSON. I do not know what the Senator from Iowa means by saying I did not care to risk the bill on the floor of the Senate. I was opposed to a bill for erecting public buildings all over the country at this time.

Mr. KENYON. I am glad of that.

Mr. SWANSON. But I say that when the Government can save from $50,000 to $60,000 a year in rent and when the Government has bought and owns the land, it is very different from a public-building bill providing for the expenditure of $100,000,000 or $50,000,000 for the erection of public buildings one-third of which are not needed and if constructed will not be a saving to the Government.

I do not favor a public-building bill last year, and I do not favor one now, but the time has come when we have got to settle this problem in the city of Washington: Are we going to utilize the land the Government now owns? We have bought the land; we have paid for it; it is valuable. Shall we erect on it a public building such as is now contemplated or shall we abandon it and continue to rent? In our rentals we pay what? We pay for the land; we pay for the taxes on the land; we pay for insurance. I am not one of those who believe that the Government, owning here a vast amount of real estate, cannot afford to erect buildings on it, make a lease of it, and stop renting the buildings from landlords here in Washington. For that reason, since I have been chairman of the committee I have contended that this is a most important question to settle in connection with the erection of public buildings. The government, Department of the Government to be organized, occupies a building which has not been enlarged since it was erected, in the time of Andrew Jackson. Its employees are scattered all over Washington. New duties have been imposed on it. The Farm Loan Board, the Federal Reserve Board, and the War Risk Board have been placed under its jurisdiction, and when you go there you find the employees are scattered. The Department of Health is a little block, but it is now too crowded, and yet when I come here with a proposition to construct a building, despite the present high prices, for forty-cent a square foot, when at the same time, as I can prove, the Government for the Munsey Building and other buildings it requires, and why should a private citizen put up a building for the Department of Justice, for instance, and rent it to the Government upon a basis that must necessarily pay him back in a few years what the building costs?

Mr. NORRIS. I presume the Senator understands this is a war measure. I should like to ask him if he thinks this building will be completed before the war is over?

Mr. SMITH of Georgia. I am not discussing it as a war measure. I am using this opportunity to criticize what has been going on.

Mr. NORRIS. Then, let me ask the Senator, if he is not considering it as a war measure, does he not think that it is very opportune to erect public buildings of this kind during the war, while construction costs are lower and when the Government needs the money for other purposes?

Mr. SMITH of Georgia. Not necessarily so. I think that the Government rent roll in the District of Columbia is a reflection upon all of us and an example of lack of business capacity in handling the affairs of the Government.

I repeat, the Government has the land; it has had it for years. I understand that the cost of erecting public buildings is thirty cents a square foot. I have the privilege of entering the Chamber, and am taking advantage of an opportunity to say something I have been wanting to say for some time, not with reference to this bill especially but generally.

On paper there are a half dozen new buildings erected for the Government by private citizens. That condition is a shame; it is a reflection upon our business capacity. We can erect buildings as cheaply as private citizens can; we have the land, and why should we not put up our own buildings?

Mr. KENYON. Mr. President—

Mr. SMITH of Georgia. Wait a moment. I think one reason is the Fine Arts Commission. I am opposed to their interfering with our buildings. One reason why the Government has not gone ahead and provided itself suitable accommodations is that there has been an idea that every time the Government erected a building it must erect a monument to art to be seen and admired for all time.

Mr. NORRIS. Mr. President—

Mr. SMITH of Georgia. One moment. Let me finish, please, and then I will yield the Senator the floor. I believe the Senator the floor. I believe we ought, as business men, to adopt a sensible office-building plan to take care of the enlarging necessities of the Government, and when new duties have been imposed on it. The Farm Loan Board, the War Risk Board, and the Fine Arts Commission interfered with the building proposed by Senator Norris. I have a letter saying that the rental of some of the buildings now used for the Government will be advanced to $1.50 a square foot. There is nothing involved in this bill except a desire to see to it that the business of the Government is provided for and that the Government stops paying rent to landlords by utilizing land which was bought and paid for 35 years ago. It seems to me, if the Government is ever going to follow sensible business lines in connection with its buildings, this is as sensible a suggestion as can be presented to it.

Mr. SMITH of Georgia. Mr. President, I am opposed to having the Fine Arts Commission interfere with the building proposed to be erected by the Government. I am opposed to erecting buildings in Washington. I am also utterly opposed to having private citizens erect buildings and rent them to the Government. I think those of us in charge of the Government ought to be ashamed of ourselves because of the rents the Government pays in this city.

Mr. DORAH. That is also true of individuals who come here.

Mr. SMITH of Georgia. Well, I do not agree with the Senator about that. They occupy an entirely different position, and rents for individuals are not especially high here. But the Government owns the land; it owns much more land than it needs for all the buildings it requires, and why should a private citizen put up a building for the Department of Justice, for instance, and rent it to the Government upon a basis that must necessarily pay him back in a few years what the building costs?
TO THE BILL FOR THE NEW TREASURY DEPARTMENT BUILDING

Mr. NORRIS. I have not.

Mr. SMITH of Georgia. Well, I mean the Senate has.

Mr. NORRIS. The Secretary of the Treasury would have.

Mr. SMITH of Georgia. The Senate has.

Mr. NORRIS. Then the bill ought to be amended if the Senator's idea is that it has been provided for in their bill or in the Government's bill.

Mr. SMITH of Georgia. I stated to the Senator that I used this opportunity to say something that was in my system which I wanted to get rid of.

Mr. HARDING. I desire to ask the Senator from Georgia how it is in the power of the Senate to pass upon plans for any public building?

Mr. SMITH of Georgia. The Senate can specify the character of building; it can require the plans to be approved by the Senate; it can specify, very briefly, the nature of the building; it can prescribe a type to correspond with office buildings erected in the city.

Mr. HARDING. If the Senator will allow me, as I understand, the function of Congress usually appertains to appropriations of the amount to be expended.

Mr. SMITH of Georgia. I have an idea that Congress has some additional authority, although I may be mistaken.

Mr. HARDING. Does the Senator think it practical for Congress to specify the plans for public buildings?

Mr. SMITH of Georgia. I do. It could specify an office-building type, according to the ordinary standards of office buildings.

Mr. CALDER. The Senator refers to the Fine Arts Commission. I am surprised that he should object to having the Fine Arts Commission use the architecture, the harmony of the architecture. We have always discussed the city of Washington as a place of magnificent distances. Is it not a proper thing, is it not the best thing in the long run for this city, that there should be a Fine Arts Commission to pass upon every public building erected?

Mr. SMITH of Georgia. No. I will say to the Senator that I have been here for six years hearing that story, and what has happened? Additional buildings have been constructed by private citizens and the rentals paid by the Government have increased from about $350,000 a year to nearly a million dollars. That is what it has meant. It has been said, "Let us wait until we can erect a great, ornamental, and esthetic building," but the building has not been erected by the Government, and in the meantime we have paid hundreds of thousands of dollars to the landlords from whom the Government rents, who continue to erect building after building for use by the Government.

Mr. CALDER. If the Senator will permit me, has not that been the policy of the present administration?

Mr. SMITH of Georgia. No.

Mr. CALDER. If I have been properly informed, the Department of State, the Department of the Interior, the Department of Labor, the Interstate Commerce Commission, the Navy Annex, and the building of the Civil Service Commission, have all been rented under the present administration.

Mr. SMITH of Georgia. I do not think the new building of the Department of the Interior is a rented building.

Mr. CALDER. I mentioned the new Interior Building, but I refer now to the willard Hotel, contiguous to the Treasury. These buildings would have relieved the State, War, and Navy Department of some of the congestion now in evidence there. The Government paid for the land upon which those buildings were to be erected, and for the entire cost of the buildings, and the plans were approved. I sought to have that bill passed, but it was defeated repeatedly. Consideration was refused it on the objection of the President from Ohio, Mr. Burton, the former Senator from New York, Mr. Root, and others.

As chairman of the Committee on Public Buildings and Grounds, I desire to say that whenever a vote has been taken, it has been found that Senators on the one side and the Members on the other side of the Chamber have voted against constructing such buildings. I hope that will not be so in this case, but ever since I have been chairman of the committee there have been some Members on the Democratic side who are against building public buildings in their local communities, and who frequently criticized me for not bringing before the Senate public-building bills, which united with a large number of the Republicans, and private building interests, has hitherto to construct buildings on Government land for Government uses in Washington, instead of spending thousands of dollars in rent and filling the pockets of the landlords of this city. I hope Senators will stand by me on this matter.

Mr. SMITH of Georgia. Mr. President, I must leave in a moment. I only came up at the ringing of the bells to vote, not expecting the House would be in order, but I could not resist the opportunity to express a criticism which I have been inwardly indulging about the silly, extravagant policy which we have pursued in regard to our public buildings. One of the troubles has been that while the Government has spent about $350,000 a year in putting up a splendid building for the Government, we have been told that the judgment of the Fine Arts Commission, or some other tribunal must be followed or that some regular and expensive type of architecture must be employed; and so, instead of constructing buildings for the Government, we have allowed private citizens to erect nice plain office buildings which are seen in the city just as much as if they belonged to the Government.

Mr. CALDER. rose.

Mr. SMITH of Georgia. I am going to yield the floor entirely to the Senator from New York in a moment, for I must go to the Finance Committee, as I promised to return at once. I hope, however, Senators will get out of the idea that we must have a great monumental architectural structure every time we put up an office annex for the Government, and that we will adopt the same policy of erecting practical office buildings upon ground owned by the Government, which will economically provide for the Government, and stop running up inexcusable rent accounts, which now amount to nearly $1,000,000, as I understand.

Mr. PAGE. Mr. President, may I ask the Senator a question?

Mr. SMITH of Georgia. I will yield the floor to the Senator.

Mr. PAGE. I merely want to ask the Senator a question.

Mr. SMITH of Georgia. Very well.

Mr. PAGE. The Senator from Virginia (Mr. SWANSON ) says that the land upon which it is proposed to erect this building is land that the Government has owned for 25 years, and that the Senator from New York says it was granted that it is the site near the Belasco Theater. For one, I want to say that I think I am as much of an economist as is the Senator from Georgia, but, living near the Shoreham Hotel there a number of handsome office buildings, and a building of such character erected on the corner now proposed to be utilized would not be inharmonious and would be amply satisfying. I think, to the eyes of all except the extremely fastidious, or those who wish to be their Government's landlords.

Mr. BRANDEGEE. Mr. President—

Mr. SMITH of Georgia. Does the Senator from Connecticut want the floor for himself or to ask me a question?

Mr. BRANDEGEE. I thought the Senator had concluded.

Mr. SMITH of Georgia. I am not a member of the committee that reported this bill, and perhaps am not so well qualified to speak about it as those who have heard the evidence, but I do carry in my mind the place where it is proposed to erect this building, and from the dimensions given in the report of the committee, 136 feet on one street and 186 on the other, being at the corner of Madison Place and Pennsylvania Avenue, it would have 25,500 square feet of ground space. The report does not indicate how many stories high it is intended to carry the building, but it estimates that there would be available 100,000 square feet of office floor space. I presume that is after deducting hallways and the dimensions of the interior walls, and that the building would probably be three or four stories high,judging from the square feet of the ground area.

Mr. BRANDEGEE. Mr. President,

Mr. SMITH of Georgia. Want the floor for himself or to ask me a question?

Mr. BRANDEGEE. I thought the Senator had concluded.
hire a half dozen different buildings and split their force up; and, if we can make sure that it shall be built to comport with the surroundings.

I would heartily agree with the statement of the Senator from Georgia that if a building were to be erected in some other city, the Senate of the city in which the building is to be erected, in a neighborhood of the Capitol, where the business would be transacted in a simple factory office or construction, it would be an unwise expenditure of money to make it subject to the jurisdiction of the Commission of Fine Arts. But I entirely agree with what the Senator from Vermont said. It is universally admitted that the old Treasury Building in the city of Washington is the finest example of pure Greek art that there is in the country. Where the Government is the debtor in right actually to erect from the Department of the Treasury building, with its monolithic granite columns, which will stand there forever, a building merely calculated to protect a certain number of employees from the weather, a mere brick building, or a building with no artistic finish at all, it seems to me among educated men, and we all pretend to be men of some artistic appreciation — would be a public calamity.

In the first place, the services of the Commission of Fine Arts are free to the Government, as I understand. The interior arrangement being the same, it seems to me beyond question that the additional cost of having a decent exterior, approved by men who have the confidence of everybody, to whose judgment anybody would submit if they were to erect a beautiful country seat for themselves or any building where art and beauty were to have any standing, then the Senator from Georgia, who can give us the model city beautiful, a structure has been erected there that stands out like a sore thumb, incompatible with its surroundings? and to have to answer, "Well, Congress thought that the Fine Arts Commission was best of all, or that the Government buildings ought to be built upon the factory plan and severely plain, and it would cost a little more to build it so that it would be a thing of beauty instead of a thing of monstrosity," would be a humiliation for any of us.

I believe, as it lies in my mind, that there is a well-built building immediately adjoining this proposed site on the east. Then comes the Huges Bank, which itself has a beautiful front, and then the American Security & Trust Co. Building — all buildings of artistic merit, with fine granite columns, and all buildings, I have no doubt, designed with some respect and some attention to the old Treasury Building. Right in the neighborhood, too, there is a magnificent new American Security & Trust Co. Building — all buildings of artistic merit, designed with some respect and some attention to the old Treasury Building, with its monolithic granite columns, which will stand there forever, a building merely calculated to protect a certain number of employees from the weather, a mere brick building, or a building with no artistic finish at all, it seems to me among educated men, and we all pretend to be men of some artistic appreciation — would be a public calamity.

To have anything placed at that corner, which we all know well to the east of the Old Building, and about which we have all inquired, when we came to Washington, why such a beautiful location continued to remain vacant — to have anything put there alongside of a Seneca, who can give us the model city beautiful, a structure has been erected there that stands out like a sore thumb, incompatible with its surroundings? and to have to answer, "Well, Congress thought that the Fine Arts Commission was best of all, or that the Government buildings ought to be built upon the factory plan and severely plain, and it would cost a little more to build it so that it would be a thing of beauty instead of a thing of monstrosity," would be a humiliation for any of us.

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In the first place, the services of the Commission of Fine Arts are free to the Government, as I understand. The interior arrangement being the same, it seems to me beyond question that the additional cost of having a decent exterior, approved by men who have the confidence of everybody, to whose judgment anybody would submit if they were to erect a beautiful country seat for themselves or any building where art and beauty were to have any standing, then the Senator from Georgia, who can give us the model city beautiful, a structure has been erected there that stands out like a sore thumb, incompatible with its surroundings? and to have to answer, "Well, Congress thought that the Fine Arts Commission was best of all, or that the Government buildings ought to be built upon the factory plan and severely plain, and it would cost a little more to build it so that it would be a thing of beauty instead of a thing of monstrosity," would be a humiliation for any of us.

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TO THE BILL FOR THE NEW TREASURY DEPARTMENT BUILDING

is up to the majority, during the last three or four years, if we have not carried out the plans which have been perfected for their execution, because of the delay in the cost of building on Fourteenth and Fifteenth Streets. The Government owns a large area there, covered by buildings of no importance, and it is the natural place for the beginning of the systematic development of the east end of the city. I am somewhat familiar with this proposed site. We had a large area there, covered by buildings of no importance, and it is at least, we hope so—when the war is over, and conditions will have returned to normal, it does not seem to me entirely wise to undertake some new project of the Government. The citi of Virginia will pursue the course to which he now seems to be pointing, to have erected in the city of Washington suitable buildings, to supply the Government needs. I am confident it will be economical, and that it will add greatly to the character of the city.

Mr. NELSON. Mr. President, I only want to say a few words. The SenatorsMr. SWANSON, with whom I have had this family affairs, will not sell it for anything, unless we allow private individuals to put up any kind of a building there.

Mr. SWANSON. Mr. President, if the Senator will permit me, it can not be sold at any price with the conditions that were imposed, because the Government should not have the site. The prospective purchasers have refused to consider any sale that will not permit them to put up an immense office building, or something of that kind. I have been informed that the Government could construct an ordinary, common building put up there even by a private individual. As the Senator says, some architects say that the Treasury Department is the finest building we have here; and we have never thought of allowing it to remain vacant. We can not sell it for anything, unless we allow private individuals to put up any kind of a building there.

Mr. WEEKS. I agree that if a building is to be erected there it should be on the site of the present building, if that is possible. It is one of the most conspicuous parts of Washington, and, in my judgment, it would be a great mistake to erect an unsightly building on that particular location; and yet I would greatly prefer to expend the money on the south of Pennsylvania Avenue between Fourteenth and Fifteenth Streets.

Mr. SWANSON. If the Senator will permit me, that site was bought for a building for the State Department and the Department of Justice. The money was paid for it for that purpose.

Mr. WEEKS. And the Department of Commerce.

Mr. WARREN. And it was intended, at least, to take in the Geological Survey.

Mr. SWANSON. Yes; but suitable plans were prepared and the Government had the money for them. It paid $50,000 for the plans and $50,000 for the land. The money was paid and the plans were adopted. I introduced a bill, and the committee unanimously reported it to erect the building. If the Department of State and the Department of War had both consented to use this site, we might be paying a whole lot of rent that they pay now. The State Department could have moved out, and we would have avoided paying these excessively high rents that we are paying now for the White House, and the Army, and Navy. But I could not get the bill considered. It was near impossible to get these bills considered unless you load them up with a lot of additional legislation.

Mr. WEEKS. I agree with the Senator; but, you see, the Treasury Department needs 100,000 square feet of floor space. It is now renting 67,000 square feet. This will give the 100,000 square feet. The Treasury Department has asked for 37,000 square feet more space. It is already renting 67,000, which makes a total of 105,000. If this building is erected the Treasury Department will not need to rent any space. The Treasury Department could be enlarged. The purpose is to have an underground passage. Then it will be a part of the Treasury Department as much as if it were immediately adjoining it. This is the only place I know of that they would be enlarged.

I have seen the plans of the building. It seems to me to be in accord with the Treasury Department and also with the Riggs Bank Building. I think the President ought not to put up there that is not in accord with those. I was associated with the Treasury Department and with the Riggs Bank Building, and for that reason I thought that amendment ought to be put upon the bill.

Mr. WEEKS. There is one other point to which I want to call attention. I have not any idea that this building can be completed within a year, or that it will be completed within a year; and necessarily it will cost from 25 to 50 per cent more than it would in ordinary times. If it were possible to have this building erected next week or next month, there might be some excuse, I think, for the very high price they are asking. But in my judgment, within 18 months, when in all probability—at least, we hope so—the war will be over, and conditions will have returned to normal, it does not seem to me entirely wise to undertake some new project of the Government. The city of Virginia will pursue the course to which he now seems to be pointing, to have erected in the city of Washington suitable buildings, to supply the Government needs. I am confident it will be economical, and that it will add greatly to the character of the city.

Mr. NELSON. Mr. President, if the Senator will permit me, I only want to say a few words. The SenatorsMr. SWANSON, with whom I have had this family affairs, will not sell it for anything, unless we allow private individuals to put up any kind of a building there. I have occasion to go there several times to consult the Department of Justice. They finally succeeded in tearing down the building, and they then went and rented a residence north of one of the parks in the city for the Department of Justice, that they have occupied ever since. I always thought that it was a great waste to pull down a building that the department will have occupied, simply for the purpose of moving them into a private residence.

In respect to this matter of architectural design, I entirely concur with the Senators from Colorado and Missouri. It is nearly impossible to get these bills considered unless you load them up with a pretty fair story brick building there, that some years ago was occupied by the Department of Justice. It was our own building. All at once the report was given out that this building was unsafe and insanitary, and it was torn down. It was a pretty good building, a four-story building. I had occasion to go there several times to consult the Department of Justice. They finally succeeded in tearing down the building, and they then went and rented a residence north of one of the parks in the city for the Department of Justice, that they have occupied ever since. I always thought that it was a great waste to pull down a building that the department needs, it ought to be erected on this very site, for one or two reasons.

In the first place, it is near the Treasury Department, and an underground passage can be easily made to communicate with the old building, so as to make them practically one. We have had some space that was not sold for anything, unless we allow private individuals to put up any kind of a building there.

This building to be erected here, being so near the White House and the Capitol and the Senate Office Building. The distance from the north end of the Treasury Department across Pennsylvania Avenue to this site is very short, and a good underground passageway would make it very convenient.

When you come to the matter of architecture, a building erected there ought to be erected in harmony with the Treasury Department and the White House. I do not know how other Senators feel about it, but a few years ago I made a trip to Europe, I saw some of the palaces there, and I came back here with a higher admiration for the White House than I had ever had before. We have had some of the most chaste and most perfect style of architecture, and I hope it will not be destroyed or injured or tampered with in any way.

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I have never been enamored with the site that we were forced to purchase some years ago near the south of the Avenue. It is rather low ground. It is not quite so low as that monstrosity of the Post Office Department, and it is low ground. It sags down south and southeast from the west and the White House. I do not know how other Senators feel about it, but a few years ago I made a trip to Europe, I saw some of the palaces there, and I came back here with a higher admiration for the White House than I had ever had before. We have had some of the most chaste and most perfect style of architecture, and I hope it will not be destroyed or injured or tampered with in any way.

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They talk about beautifying the city! That would complete the beautification of this square here. We have on the southeast the House Office Building and on the northeast we have the Senate Office Building and out in this direction we have the Congressional Library. If we should fill this other space, we would have the Capitol surrounded on three sides with suitable and proper buildings.

The Congressional Library is a building that is not only useful...
but is a work of art in itself. No one can criticize that. So I trust that the Treasury Building will be built, just as where the Senator from Virginia proposes that it shall be built; but I further trust that when it comes to the erection of a Department of Justice building that building, including the law library and the Supreme Court, should not be built up near the Post Office, but under the construction of the two Houses of Congress, opposite the Congressional Library. It has no business down in that swamp hole there, that rough, harum-scarum part of the city.

One thing that has discouraged me a good deal has been to see, in the city here, how when people had a lot of property that was not exactly in good order and was not paying good rent, but was a sort of a hopeful property, they would manœuvre to unload it on the Government. Now, look at all this space, a lot of it, between here and the depot. A lot of good buildings were torn down— for what? To make a park between here and the Union Depot. They might have had a limited park, but they extended it in front of the Southern Railway office, and extended it down in this direction. Before long there will be another drive made on Congress to take a couple of more squares down here "to round it out," as they call it, and make it perfect.

We had in this Chamber a Senator from the West who had a grand scheme, and that was to have all the Government buildings built in a row on the south side of Pennsylvania Avenue; to have them erected there like a line of Lombardy poplars in that swampy ground where the Tiber, in olden times, before it was covered with pavement and its waters into the Potomac. One of that project was the acquisition—and, thank God, it was limited to that—of those three or four squares next to the Treasury Department. There is a hotel there, there is a theater, and God knows what else. They say that that locality has been disused by the war, and perhaps we ought to utilize it for some of the departments; perhaps for the Department of Commerce, who are in that artistic building—no; not artistic, but that building which approximates to a skyscraper down on Pennsylvania Avenue. Perhaps suitable quarters could be found for them there.

Yesterday I called at the Department of Justice, and, much to my astonishment, I found they had vacated the residence that they occupied after they had torn down the brick building on this site next to the Riggs Bank. I found that they had gone into new quarters, and I ventured to state what happened in the case of the Capitol, and I had happened in that guidance. We are asked to eat less. We are asked even to wear last year's dresses. It changes from year to year.

Let me call your attention to another matter. What use was there in putting the District Building down in that swampy country? It was nothing but a swamp, as you will see by looking at an old map of Washington. It ought to have been built upon Judiciary Square, where there is high, good ground. But the street car company had an old abandoned power house there. It had been burned and destroyed and the ground was sold on the Government. The building was built there merely for a good deal of money to get a foundation in a swampy piece of land like that.

Take the building where the Post Office Department is. It puts me in mind of one of those old feudal castles that were built for an army of retainers and built as a matter of defense. It was built down there in the swamp. It must have taken a mint of money to construct it. I mean in the city. I suppose the Post Office Department is one of the leading newspapers of the city fronted on that street and were very anxious to have that feudal castle built right in front of them. They got what they wanted, but the Government, in my opinion, was not much benefited by the lunch. If we could dispose of that building for some other purpose and get the Post Office Department on high and dry ground it would be a great benefit to the people.

Mr. President, perhaps I have straggled and wandered on this question. In the matter of architecture and the work of the Fine Arts Commission you may think it strange that a rural chap like me should have any ideas. I have had the great good fortune to have the views of the Senator from Connecticut, the Senator from Virginia, and the Senator from Massachusetts that whatever buildings we construct hereafter ought to be buildings of architectural beauty and not the kind of building that should be put up at that place. When we erect structures near the old Treasury Department and near the White House that those structures should be in harmony with those two best specimens.

Mr. NORRIS. Mr. President, so that there may be no danger of my attitude being misunderstood, I want to say that I am in favor of the committee amendment. I agree to a great extent with the Senator from Connecticut and other Senators in regard to the erection of a building at this particular place. I would not be opposed under ordinary conditions to the appropriation of money for the erection of the kind of a building that is proposed at that place. I think it would be a mistake in this particular locality where it is proposed to erect this building that we should erect a skyscraper. Of course, it ought to correspond with the Treasury Building. My opposition comes not from that, but from the fact that at this particular time we ought not to be erecting buildings of that kind. It is conceded that it is to be ornamental. It is conceded that it will not be higher than the Treasury Building. It will not be an office building. As far as financial economy is concerned, it would not meet that kind of a specification, even in time of peace, when we were not so hard pushed for funds. But when we go into the art of architecture, then we go into the nature of this war that stagger the imagination. Every citizen, every man, woman, and child, has been imported from the White House, by every public office, by every newspaper, to economize in every possible direction. Next to the President, to the Secretary of the Treasury, we have to foot the bills, and we owe it out of respect to the men who are working to get it, used to. We are asked to eat certain kinds of food as a matter of economy. I have not criticized any propaganda of that kind. It has my entire approval and sympathy to carry it out to the utmost.

We are confronted now in the midst of that condition with a proposition from the committee to construct a monumental building for the Department of Justice. The Secretary of the Treasury is the son-in-law of the President. From all these men has gone forth the proclamation to everybody, economize, save, do not be extravagant, cut down what you eat, even to what you wear, make last year's machine do for this year's, if you are a farmer, and wear last year's suit and last year's shoes. But the Secretary of the Treasury, with his department right next to the White House, will utilize a million and a quarter of this money that we are getting from the hard-worked taxpayers of our country to build a monument of beauty in order that his working force may work in marble halls and eat mahogany.
Treasury Building, which is not strictly fireproof. It was constructed out of sandstone, and only a few years ago we paid $250,000 to put an iron roof on it. But the war will have a tendency to make this building more economical. Indeed, the public will be subjected to a tax on every house that is occupied. The cost of maintaining this building will be much less than the cost of maintaining the public office buildings. The same is true of the Post Office Building.

Mr. President, I would like to point out the public buildings. I pointed out the different people to be economical. Let them use beer kegs for tables, if it is an art. But they were from New York, from the very place where the clerks and some of the officials—Secretary of the Treasury to have in charge a few weeks ago a party of gentlemen and ladies had been around. They called on me. It is just a coincidence I of empty beer kegs when the prohibition law goes into effect.

I found the New York Senators. I found them accidentally and showed this old monstrosity. I had asked them to go up in that building the country to economize unless the men who are at the head of the Government would have the building occupied. They were unable to remember very distinctly that they commented particularly on the street and take part of the next block to get enough room for instead of passing appropriations like this carrying a million and a quarter dollars to construct a building which will not be erected until the war is over and which, if it could be erected to-morrow, would still be extravagant, so far as any war conditions are concerned, we ought to be willing to put some of the clerks in the corridors, if necessary. If the clerks are patriotic, they will not object to it. We are asking the women of the country to save food, while we are asking the people of the country to eat corn bread, while we are asking the children of the country to wear last year's shoes. It is not too much to ask, in the same patriotic spirit, some of the clerks and some of the officials—the Secretary of the Treasury himself, if necessary—to have offices in the corridors. The corridor is better than the offices they had before they came here. Mr. President, let them work on ordinary tables, if necessary. Let us be economical in the affairs of Government, the same as we ask the people to be economical. Let them use beer kegs for tables, if it is necessary (laughter)—empty beer kegs, I mean. There will be lots of empty beer kegs when the prohibition law goes into effect.

We must economize in every way; we can not ask the people of the country to economize unless the men who are at the head of the Government would have the building occupied. Therefore, Mr. President, this bill ought to be defeated. I am not against this amendment—I am in favor of this particular amendment—but the bill itself ought to be defeated. We ought to construct specimens of architecture and beauty when we have money that comes without the great effort that is going to be made by our people in order to make the necessary contributions to keep this Government on its feet and to carry the war to a successful issue.

Mr. NORRIS (of Michigan). The question is on agreeing to the amendment reported by the committee.

The amendment was agreed to.

The PRESIDING OFFICER. The bill is still before the Senate, as in Committee of the Whole, and open to amendment.

Mr. KENYON (of Virginia). Mr. President, I desire to say to the Senator from Virginia that I have no particular desire to delay the bill. I realize that it is an appropriation bill, and probably cannot be defeated; but I should like to ask for a yea-and-nay vote on the bill, and I suppose it is impossible to get that at this time.

Mr. SWANSON. We can have a yea-and-nay vote, and if a question is not developed we can have a roll call.

Mr. NORRIS. Very well.

The bill was reported to the Senate as amended, and the amendment was concurred in.

The bill was ordered to be engrossed for a third reading and read the third time.

The PRESIDING OFFICER. The question is, Shall the bill pass?

Mr. NORRIS. I ask for the yeas and nays.

The yeas and nays were ordered, and the Secretary proceeded to call the roll.

Mr. CHAMBERLAIN (of New Jersey). The absence of my pair, the Senator from Pennsylvania (Mr. Knox), I transfer that pair to the Senator from Arizona (Mr. Sprague) and vote "yea."

Mr. FLETCHER (of New Hampshire). I have a general pair with the senior Senator from New Hampshire (Mr. Gallinger), which I transfer to the Senator from New Jersey (Mr. Hughes) and vote "yea."

Mr. JONES of Washington (of Idaho). The junior Senator from Utah (Mr. King) is necessarily absent. I am paired with him for the afternoon, and therefore withhold my vote.

The PRESIDING OFFICER (Mr. Robinson was named). I am paired with the Senator from Michigan (Mr. Town-
SUPPLEMENT TO THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Send. I transfer that pair to the Senator from Louisiana [Mr. Broussard] and vote "aye.

Mr. SAULSBURY (when his name was called). I transfer my pair with the senior Senator from Rhode Island [Mr. Cole] to the Senator from Arizona [Mr. Ashurber] and vote "aye."

Mr. WEEKS (when his name was called). I have a general pair with the senior Senator from Kentucky [Mr. James], with whom I have a pair, has not voted. I transfer that pair to the Senator from Vermont [Mr. Page] and allow my vote to stand.

Mr. HARDING (after having voted in the negative). I notice that the junior Senator from Alabama [Mr. Underwood], with whom I have a pair, has not voted. I transfer that pair to the Senator from Vermont [Mr. Page] and allow my vote to stand.

Mr. STERLING (after having voted in the negative). I have a general pair with the Senator from South Carolina [Mr. Smith]. I transfer that pair to the Senator from Maine [Mr. Hale] and allow my vote to stand.

Mr. YARDAMAN (after having voted in the negative). I desire to inquire if the Senator from Idaho [Mr. Brady] has voted?

Mr. VARDAMAN (after having voted in the negative). I have a general pair with that Senator and therefore withdraw my vote.

Mr. PENROSE (after having voted in the negative). I observe that the senior Senator from Mississippi [Mr. Williams], with whom I have a general pair, has not voted. I transfer my pair with that Senator to the junior Senator from Illinois [Mr. Sherman], with whom I have a pair, and allow my vote to stand.

Mr. SIMMONS. I have a pair with the junior Senator from Minnesota [Mr. Kellogg]. I transfer that pair to the Senator from New Hampshire [Mr. Hollis] and vote "aye."

Mr. SUTHERLAND (when his name was called). I have a pair with the junior Senator from Kentucky [Mr. Beckham], who is not present. I transfer my pair with that Senator to the junior Senator from Oregon [Mr. McNary] and allow my vote to stand.

The result was announced—yeas 21, nays 14, as follows:

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Mr. Pomerene of Ohio then addressed the Senate as follows:

Mr. President, I desire to explain my vote on the bill just passed.

When this matter was up before I had indicated to a number of Senators my intention to move to amend the bill by striking out the second section, which provides for the employment of special architects to have charge of this work. The Senator from Nebraska (Mr. Norris) at the time was occupying the floor. It was thought that the debate would continue for some time, and I momentarily stepped out of the Chamber. Meanwhile he yielded the floor and the bill was passed from the Committee of the Whole and reported to the Senate, and when I returned a vote was being taken on the final passage of the bill.

I voted against the bill because I think it very unwise at this time, when the Government has a Supervising Architect and a corps of assistants whose time could be devoted to structures of this kind, to allow them to devote themselves to the building, perhaps, of small post offices throughout the land when their time could be devoted just as well to this particular structure. I think it very unfair to provide for the employment of special architects on this work, and I beg to indulge the hope that when the bill comes before the other House they will strike out Section 2, which authorizes their employment.

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NOTE.—On August 15 Senator Swanson asked that the Senate again vote upon the Bill. A spirited discussion then ensued in which Senator Hardwick of Georgia contended that the Bill was still debatable. The Chair ruled that it was not; after debate upon Senator Hardwick's appeal from that decision, the Senator finally again vote upon the Bill. A spirited discussion then ensued in which Senator Swanson asked that the Senate vote on the Bill.

The PRESIDING OFFICER. On this question a quorum has not voted.

Mr. SWANSON. I move that the Senate adjourn.

The motion was agreed to; and (at 5 o'clock and 35 minutes p. m.) the Senate adjourned, under the order previously made, until Saturday, August 4, 1917, at 12 o'clock meridian.