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The Fifty-Fifth Annual Convention
LOUIS LA BEAUME

Convention Notes

The Producers' Section of the Structural Service Committee

The Autobiography of an Idea
LOUIS H. SULLIVAN

Nine Lithographs
BOLTON BROWN

The Housing Project of the Metropolitan Life Insurance Company

Structural Service Department

JULY 1922
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CONTENTS

The Artist's Home—Bolton Brown .................................................. Frontispiece
Shadows and Straws ........................................................................ C. H. W. 209
The Fifty-Fifth Annual Convention ................................................. Louis La Beaume 213
Nine Lithographs ........................................................................... Bolton Brown 217
The Housing Project of the Metropolitan Life Insurance Company ................................................................. 225
Convention Notes ........................................................................... 229
The Producers Section of the Structural Service Committee .......... 230
An English View of Architectural Education in the United States ................................................................. Thomas E. Tallmadge 231
Tenth International Congress of Architects ........................................ 232
News Notes ...................................................................................... 233
From Our Bookshelf ....................................................................... 233
Obituary .......................................................................................... 234
Letters to the Editor ....................................................................... 235
New Members Elected .................................................................... 236
Structural Service Department ........................................................ xiii

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#### LIST OF CHAPTERS, 1922

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- **Colorado**—State Board of Examiners of Architects, 135 East Bay Street, Jacksonville, Fla.
- **Florida**—State Board of Architecture, 135 East Bay Street, Jacksonville, Fla.
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- **Idaho**—Department of Law Enforcement, Boise
- **Illinois**—Department of Education and Registration, Springfield
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The Artist's Home

Bolton Brown
DOES the calm and orderly despatch of business at the Fifty-Fifth Convention presage a new type of Convention? We believe that a change is more imminent than is suspected, and not because of the passionate cry for it, but simply because the Institute has perfected its machinery by a process of elimination until the question of government, so called, is less a source of either interest or anxiety to the membership than formerly. Certainly the complaint of Convention tedium and monotony does not abate, while the respect for the Board and its arduous and conscientious labors increases. But it is precisely in the recognition of this coincidence that there lies so much hope for a Convention that will arouse not only a wider member interest but a larger public concern. The Board of Directors have won a great and deserved confidence. The delegates show this more and more. That is what makes the opportunity.

TO THE FIFTY-FIFTH Annual Convention we shall revert in succeeding issues of the JOURNAL. There is much to be said about it, for in certain ways it seemed to mark a very definite turning-point in Institute history. For the present Mr. La Beaume has been kind enough to give his impressions of it as a delegate and within a very short space of time the full Proceedings will, of course, be available to every member of the Institute as usual.

For ourselves, we would crave only the privilege of adding to Mr. La Beaume's narrative by recording our impression of the ceremonies which brought the Convention to a close. There is but little to be added, it is true, to what Mr. La Beaume has said. The whole evening, from the moment of alighting in Jackson Park, was an achievement on the part of the Institute's hosts such as lifts that particular Convention into a niche of its own. The thing was architectural. The whole effect was related directly to architecture. And in that respect, it was one of the few times when a Convention of Architects ever differed very much from a Convention of any other kind of people.

It was a Roman Festival, a Greek play, a fête champêtre—it was Claude Lorraine, or it was Hubert Robert. It was Watteau or it was Fragonard. If one chanced to sit on the outer circumference of the rotunda, one looked inside upon the faintly lighted hall and watched the luminous wavering shadows disappear in the depths of the vault above, or one looked out through the doorways upon the shining water of the lagoon, the trembling reflections of lights, the silvery stream of moonlight that now and then broke through the nebulous fastnesses of cloud. Seemingly from a far distance came the ripple of soft music. Of decoration there was hardly more than the merest suggestion. Never, in the opinion of the writer, did an Institute Convention breathe forth so perfectly the message of that beauty which it is the office of architecture to create and perpetuate. We are encouraged to go on with a task which we set ourselves some time ago, and perhaps ere the year is out, we may offer our readers the story of the One Hundred and Fifty-Fifth Convention!

ANNOUNCEMENT, by President Kendall, of the Treasurer as the donor of the fund of $25,000 given to the Institute for educational purposes two years ago removes the anonymity that had hitherto surrounded this munificent gift, henceforth to be known as the Waid Educational Fund. Only one other Institute fund takes precedence, we believe, for much to the surprise of all, the bequest of Henry Adams now amounts to several thousand dollars, although it represents nothing more than the accrual of royalties on "Mt. St. Michel and Chartres," which, it will be remembered, was first published under the auspices of the Institute and at the suggestion of Mr. Ralph Adams Cram.

The Institute is rich in gifts of time and in money spent lavishly by its members. Many thousands of dollars have thus been contributed in little known and never mentioned ways. It is perhaps a matter of regret that it has never enjoyed any of the bequests which commonly fall to such an organization, but let us hope that the Waid Educational Fund will increase and multiply until it will permit an annual disbursement sufficient to afford all deserving students whatever help they may need toward making their utmost contribution in architectural development.

C. H. W.
The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER II

"There was a child went forth every day."—Whitman.

Thus after traversing a long orbit inversely to the prehistoric of the family genealogy, and tracing, on the backward swing, the curve of a little one's experience in contact with the outer world and his individual impulsive responses thereto, we again take the train for South Reading. For, while we originally started with a sort of trumpet-blast announcing the entry, upon the scene, of a wonder-child, that song quickly died among its echoes leaving behind it the silent unknown of five years duration, to be evoked from the depths, by way of justification.

Arriving at the station a man descends, asks directions, and follows the first dirt road to the left, leading over an almost treeless flat, and heading for a somewhat distant hill. Part way up the hill he notices a house on the right. Here lived a man named Whittemore, who having lost a leg, proceeded in due consideration of the remaining one, to invent, perfect and manufacture a new type of crutch, which has remained the standard to this day. The workshop stood some distance back of the house, just at the beginning of the pine woods that covered part of the hill. The road here takes a curve to the right, traverses the back of the hillside with a heavy growth of pines on the right ascension, and a neat valley to the left with scattering woods and meadow. The road then straightens, becomes of easy grade, and begins to emerge from the wilderness, so to speak. An orchard comes into view on the left, a field of young "herdgrass," or possibly it was "red-top," on the now smoothly rounded hilltop at the right. Straight ahead, running at right angles and terminating the road thus far traversed, was the main road from South Reading to Stoneham. The land here was temporarily level for a moment or two. At the left-hand corner of the intersection stood a rather modern house, clap-boarded, painted white with green shutters, and in front of it on the Stoneham Road were two stately and graceful elms. Here lived the Tompsons. The person who made this trip had no sooner reached the intersection and made a mental note or two of the surroundings than he saw a middle-aged or elderly couple, quite near, slowly approaching from the left on the road running straight toward South Reading. They were leading between them a chubby child who was screaming at the top of his angry voice, crying savagely, declaring vindictively he would not go, he would not go to school. The traveler must have worn the tarnhelm of legend, for they saw him not. To our thinking he was a phantasm of years to come. The child was absurdly dressed. Under an immense straw hat, curving broadly upward at the brim and tied on with a ribbon, appeared his upturned face, red, bloated, distorted; angry eyes, terribly bright, running with tears in a stream; a mouth hideously twisted out of shape. Below this raging hell was a sort of white jacket and a big bow tie. Below this, if you please, white pantalettes, gathered in at the ankle and more or less flounced or frizzled. These pantalettes were the source of his fear, of his rage and his protest. He had already on account of them, he said, been regularly insulted by the neighbors' children who had formed a circle around him and danced, sneered, pointed the index of scorn, and made merry. Was that not enough? Must he now face a schoolfull of tormentors? He would not go, he would not go! He bawled and screamed that he would not go! The child was on the verge of hysterics; it seemed less agonizing to face death than to face ridicule. The elders consulted quietly, turned back, the child still between them, and disappeared at the entrance-way of a house a hundred yards or so beyond the Tompsons on the Stoneham Road. Next day, he appeared in conventional garb. His name was Louis, or, as his Grandmother pronounced it, Louie. It was a joyous day for him, a sad day for her. For in her heart she knew that with the laying away of the pantalettes there was laid away a child—a child gone forever—a child soon to be but a sweet memory,—a child soon to metamorphose into a tousle-headed, freckled, more or less toothless, unclean selfish urchin in jeans; and that he would continue to grow bigger, stronger, rougher, and gradually grow away from her—ever more masculine, ever more selfish. But this apprehension, this heart's foreboding was not to come wholly true, for she held his love—she held it to the end. The child was not an enfant terrible; he was rather an independent, isolated compound of fury, curiosity and tenderness. Subtle indeed were the currents flowing and mingling within him, embryonic passions arising and shaping, ambitions vaguely stirring; while his sharp eyes saw everything. Spring was on the wane. The birds were full-throated in glorification of the number of bugs and worms eaten, or the intensive discussion of domestic affairs. High up in one of the Tompson elms—the one to the east—hung the purse-like nest of the self-same golden orioles that came there year by year, while from a nearby meadow floated the tinkle of a solitary bob-o-link winging its way rejoicing. The day was Beauteous; full sunshine flooded and enfolded all. The boy, after much thought, of its kind, suddenly announced he was
ready. His curiosity had been insidiously at work. He would see the school; he would meet new children; he had become eager; he would be a bigger boy in the world's opinion. So, on this same cheerful morning, hand in hand with Grandma, who alone habitually assumed responsibilities, he began the pilgrimage of learning that hath no end. They took the dusty road that led eastward, directly toward the north end of the village. They leisurely mounted a gentle grade until the crest was reached. At this exact point, just behind the stone wall to the right of the road—marvel the village. They leisurely mounted a gentle grade until the crest was reached. At this exact point, just behind the stone wall to the right of the road. As the approach, But of a sudden, there it stood, grand, overwhelming, with its immense trunk, its broad branches nearly sweeping the grass, its towering dome of dense dark green; opposite it, across the road was a farm house, back of it an open pasture. From the vantage of the road spread out a view of things below. The grandmother was for going on. The child stood transfixed, appalled. A strange far-away storm, as of distant thundering, was arising within his wonderself. He had seen many trees, yes; but this tree—this tree! He trembled strangely, he wished to cry; with gentle scolding he was dragged away: the grandmother did not understand. From this point on the road was bare and shaggy. Half way down, to the left, and set well back, was found not the little red school house of romance, but a rather large white one, clap-boarded, green blinds, gabled, a bell, a well with force-pump, trampled playground, and so on. He was duly presented to the teacher. Her face and form, alas, like many another face and form, have passed into memory’s oblivion. All details settled, he was to come the following morning, which he did, after successfully passing the magnet tree, while saluting it affectionately in a calmer mood. Day after day he passed the tree. It became his tree—his Great Friend.

He was to spend many days at this ugly hillside school. Gradually he became acquainted with the boys and girls there, for it was coeducational. What these children did during the recess hour would scandalize the wholly good. But to the casual sinner, scrutinizing the depths of his own past, reason might be found and a certain tolerance engendered whereby these vagaries of small animals, if not exactly condoned, might at least be minimized as the native output or by-product of inquisitiveness and emulation. Our boy was as yet too young to fight. But according to the rules and regulations of the gang his time was but deferred, for each new boy must establish his fistic status.

The school room was rather large with two wooden posts supporting the roof. The teacher sat at her desk on a raised platform at the wall opposite the entrance. The children sat at rows of desks (a row per grade) at right angles to the rear wall; in front of them an open space for recitation by class; blackboard on the wall and so forth. There were five grades in the single room. Teacher sat at her desk, ruler in hand to rap with or punish with. All the children studied their lessons aloud, or mumbled them. The room vibrated with a ceaseless hum, within which individual voices could be heard here and there. Everything was free and easy; discipline rare. There was however a certain order of procedure. Came time, for a class to recite. They flocked to the wall and stood in a row; neither foot nor head first. Questions and answers concerning the lesson of the day. Teacher’s questions specific; pupils’ answers must be definite, categorical. Teacher was mild, patient; the answers were sometimes intelligent, more often hesitant, bashful, dull, or hopelessly stupid. Each answer was followed by a monotonous “go to the head,” “go to the head!” and all the time the hum went on, the unceasing murmur, a thin piping voice here, a deeper one there, a rasping out yonder, as they pored over their primers, first readers, geographies, arithmetics, while now and again Teacher’s voice rose high, questioning, the class on the rack answering as best they could. This babel merged or deliquesced into a monotone; there seemed to be a diapason, resonant, thick, the conjoined utterance of many small souls trying to learn, entering the path of knowledge that would prove short for most of them. The children were all barefooted and rather carelessly clad; notably so in the matter of omissions. One thing is certain and the rest is lies: This school was of, for, and by the people.

Our child was given his proper place in the lowest grade, or class, or whatever it was called. He took hold rather blithely. He seemed to feel the importance of his entry into this new world, so different from home. Little by little he seemed to feel that he belonged there; but he never succeeded in feeling that the school belonged to him except as to its externals. Somehow he did not fit into the curriculum or the procedure. He was of a most pronounced, independent nature. He quickly became listless as to his own lessons. He seemed to be nothing but a pair of eyes and ears not intended for books, but for the world little and big about him. In this immediate sense he was almost devoid of self-consciousness. His normal place was at the foot of his class. But one day he awakened to the fact that unaware he had become interested, not in books, but in procedure; said procedure consisting in the oral examinations and recitations of the grades above his own, as they, in accordance with the arrangement of the school room, stood directly in front of him, drawn up in line, undergoing the routine torture. He began to notice their irregu-
lar mass-effect and their separate persons. He followed their fortunes in going to the foot and going to the head. He transferred himself to them. He noticed, too, which girls were the prettiest and which boys were the gawkiest. He learned the names of all. He became solicitous of their personal fortunes, in their struggle for knowledge or their attempts to escape it. For him, it became a sort of drama, a sort of stage performance, and he began to note with growing interest what they said and what teacher said, which answers were correct, which were failures. Over and over again he saw and heard this until he came to know the groundwork of what all the grades above him were struggling with. But as to his own lessons, Alas! Yet he followed the upper grades so intently that he became critical: What was this about the four men who built so many perches of stone wall in three days, and two other men who were to build some wall in six days? What did it amount to anyway? The real question was where was the wall to be built? For whom was it to be built? What was his name? What were the names of the men who were building the wall, (for it was becoming a real wall)? Were they Irish or Scotch? Where did they get the stone to build the wall of? Did they get it from the rough quarry across the road from the schoolhouse? Did they gather up boulders from the fields? Was not this matter of four men and two men irrelevant? The information was too sparse, too unconvincing. He could not place the wall, and what good was any wall he could not see? And thus he went on, unaffected by the abstract, concerned only with the concrete, the actual, the human.

One evening when all were at home, a letter arrived addressed to Grandpa. He opened the envelope and read the letter aloud. It was from Teacher, and set forth with deep regret and concern that his grandson was a dull boy, that he was inattentive, would not study his lessons, was always at the foot of his class, but he was a nice boy. Could not Mr. List bring influence to bear to induce Louis to reform his ways? Would not a kindly word from him, concerning the need of education, have a moral effect? She had used all her powers of persuasion, and so forth and so on. At the end of the reading Grandpa dropped the letter, on the floor burst into volcanic laughter, roaring until the lid of the heater rattled, rocking forward and backward on his chair, clapping himself on the knee, in a series of subsiding outbursts, ending in a long drawn spasmodic chuckle, expressive of his cynical sense of humor, his infinite contempt for those who had eyes and yet saw not. To call his sharp-eyed grandson a dullard! Why, he said, one might as well call Sirius a flap-jack, and other joking words to that effect, for he was fond of teasing his grandson, whom he had so long watched out of the corner of his eye. But Grandma, more conservative, took the matter seriously. With her grandson standing at her knees, a bit abashed, a bit afraid, after giving her six proprietary kisses, his arms about her neck and cheek to cheek, she found it, oh, so hard, to scold him. Instead she told him gently how necessary it was to acquire an education; how necessary to that end that little boys, particularly her own grandson, for the family's pride, should attend industriously to lessons. Could he not do better, would he not do better? He said he could and would; and all was peace. She had not Grandpa's perspicacity.

Next day, at school, he pitched in, and the next day and the next; shutting out all else. Oh, it was so easy to head this class; so easy for one who knew what the upper grades knew, or thought they knew for a moment or perhaps a day. They knew not that it was all, save a bare remnant, fated to fade away forever. Tired of heading the class, which was so easy, he occasionally, and indeed with increasing frequency fell to zero, because of a lapse, because, perhaps, of a twitching squirrel in a tree nearby the window, or a beautiful white cloud, curiously changing shape as it slowly drifted through a beautiful blue sky. And what did it all amount to? What signified it to be at the head of a row of dull-wits? He was becoming arrogant. For Grandma's sake, he kept on, after a fashion. He was becoming bored.

Summer was waning. The third of September was at hand. Six candles in the cake announced an anniversary. He was overjoyed. He was actually six, healthy and strong, robust. He became, at once, more arrogant. He loathed the school.

The winter of 1862-3 passed along with its usual train of winter sports and hardships. Our Louis joined heartily according to his height and weight in all the sports. Of hardships he knew nothing. What fun it was to be drawn on a sled over the snow by his Uncle Julius. To be drawn on the same sled over the dark sheer ice of the pond by Uncle on newly sharpened skates. What thrill of courage it required not to cry out as he shuddered at the darkness below, and wondered whether the pace were not too swift. But Uncle, some fifteen years older than he, was to him a big man; and what could not a big man do? So he had faith in the uncle, if not entire confidence, as they flew here and there among the gay crowd of skaters. How they went way to the end of the pond and then swung back past the ice houses where men were beginning to work. And later on how thrilled and still he was by the thunderous boom and tear of an ice crack ripping its way from shore to shore. And many such booms he heard on similar trips in zero weather. And then the men at work cutting ice. How exciting it was to watch men at work. They used large hand saws to cut ice into square
blocks and there was one strange saw drawn by a horse. Then men with poles who shoved and dragged the ice-blocks through the clear water to the bottom of the runway, and now it was hauled up the runway by a horse that walked away with a rope that ran over the runway, and now it was hauled up the runway by a horse. Then men with poles who shoved and dragged trees, forming great drifts through which he struggled through a pulley, and then back to the ice cake. The ice seemed very thick and clear.

And then came splendid snow-storms, decorating the trees, forming great drifts through which he struggled in exultation, every now and then and still running and falling, with his face in the snow. How he rolled over and over in the snow of a white world, a beautiful world even when the gray skies lowered. And why not? Had he not warm woolen mittens knitted by Grandmama and hood and stockings, by the same faithful hands, and "arctics"? Was he not all bundled up?

And the sleigh rides. Oh, the sleigh rides in the cutter with the horse looming so high, and the row of bells around the horse's collar, jangling and tinkling in jerky time. And he so warm under the buffalo robe. And they met so many other sleighs in the village and over in glee in the snow of a white world, a beautiful world even when the gray skies lowered. How he rolled over and over in the snow of a white world, a beautiful world even when the gray skies lowered. And why not? Had he not warm woolen mittens knitted by Grandmama and hood and stockings, by the same faithful hands, and "arctics"? Was he not all bundled up?

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this service is undeniably the most galling and least inspiring of his functions.

Except at Conventions, he attempts with more or less success to delegate this duty to a competent clerk of the works. But with a knot of orange ribbon in his uttermost proclamating him an authorized representative of his Chapter, he becomes a sort of imitation Congressman content to spend his fleeting moments in the dotting of i's, the crossing of t's, of striking out the word "that" before "this," or rising to a point of order. At times, in an effort to recover his self-respect, he offers a resolution couched in endearing terms and pledging his profession to some lofty and innocuous ideal. There is something inimitably pathetic in the spectacle of one hundred and seventy-six winged geniuses, each with his shovel full of rubbish. So the wise provision to limit the size of the spectacle is a step in the right direction, and the motion so frequently made to "refer the subject to the Board with power to act" (after night falls) is always heard with a sigh of relief.

On the whole the Convention transacted its business with a minimum of controversial effort. The Board of Directors had performed its preliminary work very thoroughly and whatever opposition had been expected to its proposals melted away in the genial but rather intense heat of the assembly room. There were certain moments of interest during the proceedings and many in retrospect; these latter having to do with the greeting of friends, the general feeling of fellowship, and the hospitality of our hosts.

To review the proceedings seriatim would be to retrace our steps and would result in the same mild criticisms above recorded. The recognition of Mr. Waid's generous contribution to the cause of education is pleasant to recall; and the presentation of a gold medal to Dr. C. Howard Walker in recognition of his literary skill in the cause of Art, called forth a response from the recipient in his usual happy vein. Mr. W. Stanley Parker was deputized to convey a silver medal to Mr. R. Clips- tone for his essay in the same cause.

Those who feel that the Journal ought to pay in dollars and cents as well as in usefulness were pleased with Mr. Kimball's announcement that the Journal had earned a net profit during 1921, over and above all expenses. As a matter of fact it did this and also bore a loss of some five thousand dollars incurred in giving the Journal to members at half the regular price, and in distributing the minutes of Board and Executive Committee meetings to members of the Institute without any charge on the Institute's treasury.

The recommendations of the Committee on Survey of Institute Methods in regard to Junior Membership met with cordial response, and the Board of Directors will undoubtedly perfect these suggestions so that young men fresh from the universities may be recruited to the ranks of the Institute. It is a little disconcerting to realize that this might have been done long ago both to the advantage of the juniors and their seniors.

President Kendall called the Convention to order on Wednesday morning, 7 June, at the Chicago Beach Hotel, and presided at most of the sessions from that time until final adjournment on Friday afternoon, with suave and mellow competence. His presidential address was a model of pertinent recital and his forbearance in refraining to address the delegates on the state of the Union might have been taken as an indication that though the architect as a citizen may hold valuable opinions on politics, social economy, or finance, his chief contribution to civilization is presumed to be architectural.

The report of the Board of Directors again impressed the delegates as significant of the enormous amount of work ably and unselfishly performed by the Institute's officers and committees. The various resolutions comprised in the Board's report were either passed as presented, or referred, after discussion and approval of their essence, to the Board for action. Among these were the several amendments to the constitution which seemed necessary in order to harmonize the revised constitution with the original charter, following which all acts of previous conventions were validated by resolution.

The treasurer's report showed a healthy financial condition, receipts for the year 1921 being $9,468.95 in excess of expenditures. The principal factor accounting for this prosperity is an increase of 40 per cent in dues. The Institute membership has grown from a total of 1,580 in 1920 to 2,256 at the end of 1921. However, as this rate of increase cannot be expected to continue, care must be exercised in stretching our resources to cover the necessary extension of activities. The treasurer was revealed as last year's anonymous donor of the sum of $25,000 to the Educational Fund; and at the suggestion of President Kendall this fund, now increased to $28,000, will henceforth be known as the Waid Educational Fund.

The report of the Committee on Education indicated once more the serious and valuable efforts on the part of the Institute to raise the educational standards of the profession and thereby increase the quality of the architect's contribution to society. The committee endorsed the resolutions of the Collegiate Schools of Architecture "to provide insofar as they may be able, in addition to existing four year courses, a course leading to the baccalaureate degree in architecture that will require normally not less than five years' collegiate work; that the additional time be occupied in increased cultural, scientific and structural studies; that the completion of the major part of the scientific and structural subjects included in the five years' course be required as a prerequisite to the study of design, and that the cultural, scientific and structural studies included in the five years' course be required for the graduate degree." The committee also proposed "that the Convention approve the use of the income of the Educational Fund for the stimulation of a general appreciation of the arts, and for the support of graduate scholarships in architecture in such manner and degree as the Board may approve, and that this resolution shall not prevent the Board from providing in any annual budget for the expenditure of current funds of the Institute in addition for either or both of these purposes." Pursuant to the resolution, the committee recommended the establishment of ten graduate scholarships in architecture and expressed a belief that the graduate students benefited by these scholarships should be concentrated in one premier school. Some difference of opinion in regard to this concentration developed and

214
was voiced by representatives of the Association of Collegiate Schools of Architecture. The general idea was, however, enthusiastically approved and doubtless the details will be worked out satisfactorily to all concerned. The committee further requested that the Institute assist the Beaux Arts Institute of Design by taking up a certain number of subscribing memberships. It was also suggested that the lectures on the appreciation of art so successfully delivered by Dr. C. Howard Walker and Mr. Charles Z. Klauder be continued. The general tenor of the committee's report may be expressed by the following resolution which received the unanimous endorsement of the Convention:

Whereas, The art of a people is the enduring flower of their civilization; and
Whereas, The American Institute of Architects is convinced that as a Nation our lack of appreciation of art is due to a manifest lack of early training, and that the study of art has been neglected to make room for so-called more practical subjects; and
Whereas, The American Institute of Architects believes that as a medium for training the mind in observation and broad vision, quite aside from its great cultural value, the study of art in its various manifestations has been improperly neglected; and
Whereas, The American Institute of Architects believes that American youth is today more prepared to feel an interest in this great subject, by reason of our closer international contacts; and
Whereas, The American Institute of Architects recognizes the far-reaching influence of the College Entrance Board on the standards of College entrance teaching; and heartily acknowledges the admirable results already accomplished by that Board in its difficult task; and
Whereas, The American Institute of Architects has earnestly hoped that the study of Art would be given a place comparable to that accorded to Poetry and Literature; therefore

Be It Resolved, That the American Institute of Architects does now urge the College Entrance Board to include in college entrance examinations generally, and more particularly in relation with History, Literature and the Classics, questions dealing with the arts as the most lasting expression of civilized man; to the end that American youth may be led to appreciate past achievements in those arts, and that they may require of our artists of tomorrow, their fellow-members of the rising generation, that they worthily express their day and our Country.

Discussion of the report of the Building Committee regarding the improvement of the Octagon property revealed an affectionate interest in this landmark, but a decided lack of unanimity as to the particular nature and form of the improvement. The layman might have thrilled with pride as the ball was continually knocked out of bounds by supposed experts, quite in the manner of the ordinary, human, untutored Building Committee. The discussion of this particular architectural problem while interesting as an innovation seemed to confirm our familiarity with Congressional methods of procedure.

The morning session on Wednesday with the first vice-president presiding was devoted to discussion of Industrial Relations, Registration Laws, Jurisdictional Awards and the organization of the American Construction Council. Mr. T. J. Donnelly, chairman of the Citizens' Committee to enforce the Landis Award, explained the activities, accomplishments and aims of this committee, but there was no further discussion of the delicate and difficult subject of Industrial Relations, unless the discussion following the report of the chairman of the National Board of Jurisdictional Awards might be interpreted as such. The delegates passed on to something easier or at least more academic when Mr. Lorch reviewed the work of the National Council of Registration Boards. Its bureau, under the direction of Mr. Emery Stanford Hall, does a useful work in collecting data relative to the qualification of applicants for registration, and is also attempting to standardize requirements for registration so far as may be possible.

While the principle of registration seems to have gained headway in certain parts of the country, there still remains a considerable apathy on the part of the profession at large respecting its importance. Registration Laws, however well conceived, do not seem as yet to have materially improved the standards of practice or the quality of design in the States where such laws exist.

Of all the subjects introduced to the Convention that involving the present system of Jurisdictional Awards seems to have aroused the greatest amount of contention. A considerable body of the membership appears to question Institute policy in attempting to rid the Building Industry of one of its most annoying features. Notwithstanding the fact that the Board of Jurisdictional Awards has repeatedly stated that its decision cannot apply in those localities where union labor does not prevail, the adherents to the principle of the open shop seemed to imagine some malignant menace in the activities of the Board. The discussion recalled at times the debates over the danger of entangling alliances which have followed our national aspirations for peace. Treaties of any kind, no matter by which political party they may be presented, seem, at the present moment, to be objectionable to the American temperament. The thing which the American temperament likes best, however, was done in the case of the Report of the Institute Member on the Board of Jurisdictional Awards when the whole subject was referred back to the Board for further study.

Once more the Committee on Small Houses rendered a report of its activities and testified to a growing interest in the work of the Small House Service Bureau idea. The partisans of the service are gratified by the endorsement of the Department of Commerce, but deplore the indifference of the profession at large. Surely, they must be commended for rendering an unselfish service, and their work may be but a prelude to the organization of Architectural Clinics, even in the great cities where the Apartment House Promoter, the Moving Picture Producer, the Real Estate Operator and the Jerry-Builder may receive scientific treatment at little or no cost. If the idea is successful in the field of housing it should be extended indefinitely. The advertising value of the Small House Service Bureau idea to the profession and its educational value to the public at large should not pass unnoticed, however, in these times when the word architect has still so uncertain a meaning.

The work of the Structural Service Committee was endorsed and will be continued under the patronage of the Institute. Reference was made to the organization of the American Construction Council, and it is to be hoped that the idea of calling together in counsel repre-
sentatives from all branches of the Building Industry will
result in mutual benefit to all concerned in building.

Mr. O. C. Harn, of the National Lead Company,
spoke briefly on behalf of the conference on Better Ad-
vertising to Architects, and the Convention approved a
resolution "to continue the work of the conference by cre-
dating a Producers' Section of the Structural Service Com-
mittee to advise and counsel with manufacturers, who
may so desire, on the character of their advertising as
to size, form and content. To assist in furthering the
use by Architects and Producers of the Standard Con-
struction Classification adopted by the American Insti-
tute of Architects, and to promote sincerity and reli-
ability of statement in advertising."

The recommendations of the Board regarding the
question of Fellowships involve changes in the By-laws
by which Fellowship hereafter shall be conferred by a
Jury of six Fellows appointed by the president. The
name of each candidate selected by this Jury, after having
been submitted to the Chapter of which he is a member,
and to all Members and Fellows of the Institute shall
be submitted to the Convention for final action. It is
hoped by the establishment of this Jury of Fellows, whose
duty it shall be to investigate the qualifications of can-
didates, that the distinction of Fellowship may from this
time on be brought into closer harmony with the pur-
poses for which the Award of Fellowship has been
devised.

This capitulation by no means covers all of the busi-
ness of the Convention, and mention should be made of
Mr. Levi's report for the Committee on Foreign Build-
ing Co-operation, which assembled the Exhibition of
American Architecture, exhibited in Paris in 1921, and
since shown at the Royal Institute of British Architects,
and elsewhere throughout Great Britain. The attempt
to carry forward newspaper publicity work of an Edu-
cational character seems quite in harmony with the In-
stitute's general educational policy, and its desire to
increase public appreciation and understanding of the
Art which we practice.

The luncheons arranged in the intervals between
sessions enabled the delegates to fraternize, and the
business of the Convention was no doubt greatly ex-
dicated by the remote location of the Chicago Beach
Hotel. Opportunity was given the visiting delegates to
inspect the grounds and buildings of the Chicago Uni-
versity; and the delightful motor trip through the North
Shore Suburbs and Lake Forest will not soon be for-
gotten. The itinerary included stops at Mr. Howard
Shaw's charming Ryerson house with its lovely gardens;
the McCormick house, notable among the works of Mr.
Charles Platt; the residence of Mr. Charles Burrell
Pike designed by Mr. David Adler, and the Stonehill
residence of formal 18th Century dignity, the latter
revealing the combined talents of Mr. Shaw and Mr.
Adler. The drive culminated at the Indian Hill Country
Club where the guests were most hospitably entertained
by the Chicago Chapter and the Architectural Club.

The scene of the Institute dinner Friday evening was
the rotunda of the old Fine Arts Building in Jackson
Park. Here President Kendall felicitously awarded the
Institute Medal to M. Victor Laloux, response being
made by Monsieur Barthelemy, Consul of the Republic
of France in Chicago, on behalf of the recipient. Mr.
Charles L. Hutchinson then assumed direction of the
meeting and, presiding as toastmaster, introduced Mr.
Lorado Taft and Mr. Oliver Dennett Grover. Elo-
quent as these gentlemen proved to be, the silent eloquence
of their surroundings will long remain an impressive
memory in the minds of those present. The building
had been especially prepared for this unusual event. To
say that it had been decorated would be misleading, for
there was scarcely any decoration at all in the accepted
sense, but only the barest simplicity. The rotunda itself,
vast, and domed with its sombre stony walls and stately
columns, was shadowy and dim in the soft flare of
shieded lights, and the guests dined in a kind of classic
gloaming. Outside, the moon in a cloudy sky shed fit-
ful gleams on the decaying portico and colonnades, and
spread a silver greenish sheen on the still waters of the
lagoon. The scene was altogether lovely, and however
well the building may be restored, it will never look as
well as it looked that evening in the eyrie light. The
cracks and fissures in the stucco, the splotches and stains
and patches of rusty brickwork here and there gave it a
softness, a mellowness and a dignity that cannot be re-
covered in a thousand years. So, with this memory
almost wholly architectural, the delegates dispersed.
Nine Lithographs

By Bolton Brown

From time to time the JOURNAL has published reproductions of lithographs and has commented upon the growing interest that is being taken in this simple and yet marvelous reproductive process. The lithographs by Mr. Brown are now published because apart from their value as lithographs, they offer excellent examples of the varying values of line and tone, which lithography permits. Toward this aspect of the art Mr. Brown has given special study and those architects who have experimented with the lithographic stone will be interested to see what he has done. Also, they will be further interested to know that each of these lithographs was drawn on stone on the spot, since Mr. Brown contends that there is really no other way to make a true lithograph, an opinion on which there are many who agree. It is our hope that more and more architects may come to see the value of lithography as an auxiliary method of presenting their work to the public.

At Zurich
THE BACK YARD
Bolton Brown
THE MOUNTAIN

Bolton Brown
TWO MAPLES

Bolton Brown
Morning Sunshine

Bolton Brown
Mt. Woodworth

Bolton Brown
The Housing Project of the Metropolitan Life Insurance Company

The accompanying illustrations will convey an idea of the extensive housing development to be sponsored by the Metropolitan Life Insurance Company, an intimation of which was contained in our May issue. A complete city block is to be developed, as will be seen, in the metropolitan area of New York City, and the plans are based upon the intensive study which Mr. Andrew J. Thomas has given to the subject of apartment house planning. There are to be fifty buildings or units, each containing thirty-nine apartments, housing in all 1950 families.

Certainly this is one of the most significant operations in housing that has come to the attention of the citizens of the United States. It does not by any means solve the housing problem, as many may quite freely claim, yet on the other hand it does more than any other undertaking has done in pointing the way by which skill in architecture can be made to serve, as well as showing the way by which people may look to their own effort as a way out.

Is there any reason, for example, why groups of working men cannot combine their earning power, their savings, and their credit to do what is here being done for them? And if they can educate themselves to the point of utilizing that sort of co-operative effort, why may they not see that the principle of co-operation can be applied in infinite detail? In no other way shall we be able to provide decent and comfortable homes for those earning a low wage, or even for those earning a little better than a low wage. Every country on earth has had to confess utter inability to answer that problem.

In his long and devoted studies made often at great sacrifice, Mr. Thomas has demonstrated that the mad scramble to cover the largest possible area of land, in a tenement house scheme, is a mistake. We have long known that it was a sad mistake from a humanitarian point of view, but he has shown that it is a mistake even from the sordid point of view which concerns the investor. We say sordid in no spirit of personal disapprobation. The housing business proceeds on the theory of investment and interest. It can proceed in no other manner as it at present functions. The point is that in so proceeding it must of sheer necessity sacrifice both quality and quantity of housing in order to get in under the wire. If we are willing to admit this we shall begin to understand the question of providing good houses at a low rental. It is noticeably true that the project under discussion profits from the scale on which it is undertaken. All the financial savings are here possible, but, in addition, there are incomparable gains in the possibilities of developing a whole city block at a time. The long garden, for instance, some 36' by 100', the ample courts, the simple circulation, and the savings in space, due in large measure also to the very skillful planning. The economic unit from which the scheme derives is that of a rental of nine dollars per room per month, and the financial outcome of the project will be watched with interest.

Mr. D. Everett Waid is associated with Mr. Thomas.
THE HOUSING PROJECT OF THE METROPOLITAN LIFE INSURANCE COMPANY
PLAN OF BASEMENT
GENERAL NOTES:

1. All windows are shown as clear glass with muntins as indicated.

2. All doors are shown as hollow metal doors with clear glass in the upper portion.

3. All stairways are shown as open riser stairways.

4. All plumbing fixtures are shown as standard fixtures.

5. All electrical fixtures are shown as standard fixtures.

6. All heating and ventilating systems are shown as standard systems.

7. All mechanical systems are shown as standard systems.

8. All structural systems are shown as standard systems.

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PRESIDENT Faville is the nineteenth to be elected by the Institute and is the first president to be chosen from west of Chicago.

THE Association of Collegiate Schools of Architecture held its annual conference on the two days preceding the Convention and a report of its proceedings is promised for our next issue.

THE Honorable Herbert Hoover was made an Honorary Member of the Institute in recognition of his services to the building industry.

PRESIDENT Kendall announced, at the dinner on Friday evening, the competition to be held by the Chicago Tribune, a complete account of which appears in our advertising pages.

THE CONVENTION supported the Committee on Education in urging upon the College Entrance Board the advisability of including the history and development of art in its examinations for admission to college.

A TRAVELING Scholarship for the purpose of study in the use of marble was also announced by the Committee on Education. The funds for this in the amount of $1,800 a year are to be contributed by the Alabama Marble Company, and the particulars will later be announced.

A NEW Jury of Fellows was ordered to be established. It is to be appointed by the president and we believe that it is the intention to confine it, as far as possible, to Past Presidents of the Institute. Its task will be the restoration of Fellowship to the dignity which ought to surround it.

THE amount to be set aside in the Reserve Fund is reduced from fifteen to ten per cent of the Institute's income from dues. We believe the majority will welcome a financial change which promises to provide more money for the advancement of architecture in the very present present, rather than in the very future future.

TO AID in planning for the Institute’s growth in income and expenditure the Convention authorized the creation of the Finance Committee recommended by the Board in its report. The Committee is to be so arranged that one new member will be added annually and it will be its duty to develop a continuous financial program and draft budgets.

IT WAS an impressive moment when, after President Kendall’s eloquent tribute to the Ecole des Beaux Arts, those graduates present at the dinner were requested to rise and assemble at the foot of the speaker’s table so they might be presented to Monsieur Barthelemy, who received the Institute Gold Medal on behalf of Monsieur Victor Laloux. Mr. Van Pelt addressed Consul Barthelemy, who responded most cordially.

THE National Council of Registration Boards held its annual meeting on the evening preceding the Convention and struggled with some of the problems which have arisen in the methods of granting reciprocal registration. The Council should be ready to make some public announcement in the near future as a means of satisfying those members of the profession who are being denied registration upon what seem to them to be the merest technicalities.

THE JUNIOR class of members is now established, by act of the Convention. They will be known as “Juniors” and any graduate from a recognized school of architecture is eligible for admission, providing application be made within one year of the date of graduation. The membership will expire automatically at the age of thirty and in the meantime a Junior will be bound under the disciplinary rules of the Institute. The annual dues will be $5.

ARTHUR Matthews of San Francisco, and Frederick W. Goudy, of New York City, were awarded Institute Medals, the former for his work in decorative painting and the latter for his contributions to the art of typography. Illustrated articles in connection with these awards will later appear in the Journal. A gold medal was also awarded to Dr. C. Howard Walker in recognition of his literary contributions to the furtherance of art, and a silver medal was bestowed upon Mr. R. Clifton Sturgis for his work in the same field.

CANON 11 was stricken out and in its place there was ordered inserted in the Circular of Advice the following: “To compete knowingly with a fellow architect for employment on a basis of professional charges is inconsistent with the spirit of this code and belittles the profession in the eyes of the public. An architect should take reasonable steps to ascertain if other architects are also under consideration and in no event should he depart from his own or any general standard of charges for the purpose of underbidding his competitor.” In other words, Canon 11 has gone the way of the old Canon on advertising, and architects are merely reminded, albeit with some devious language, that they are engaged in practising a profession rather than in a hunt for business. But, as Mr. Morris pointed out in a recent issue of the Journal, there can be no actual competition in the price of anything until the measure of the price has been established.

THE proposal to deprive the Standing Committee on Competitions of the discretionary power vested in it or to limit or abridge that power, was not approved by the Board of Directors and the Convention concurred in its disapproval. The Board’s report summed up the matter very properly when it stated that neither the Standing Committee nor architects should be brought to trial because in the opinion of someone the Standing Committee had acted unwisely in exercising its discretion. This statement of course grew out of the charges preferred by certain members of the Kansas City Chapter in the case of the competition for the Kansas City War Memorial, the competition having been approved by the Standing Committee and having been participated in by some of those who later preferred charges. We are glad to say that the Kansas City Chapter has, since the resignation of those of its members who could not agree with the report of the Committee on Practice (which dismissed the complaint), affirmed its support of the Stand-
ing Committee and of the Competition itself. The Convention acted wisely in leaving the discretion where it is, for, as in the case of the Indianapolis competition now being formulated, it is clear that the discretionary power is the best evidence of the Institute's good faith in trying to guide competitions in the public interest.

The Producers' Section of the Structural Service Committee

The Conference at Indianapolis in November last between members of the Institute and the Producers of Building Materials has been reported in these pages. There was a second Conference at Chicago immediately preceding the Convention in June, at which there was adopted the resolution referred to by Mr. La Beaume in his article in this issue. This means another considerable step in the direction of making the distribution of advertising literature to architects more effective and less costly.

It is the object of the Journal and its Structural Service Department to increase the efficacy of advertising by reducing its volume and consequently its cost, and this point is coming more and more to be recognized. Good advertising is cheap. Poor advertising is dear. Good advertising means reducing the cost of building. Poor advertising means increasing the cost of building. That is the story in a nutshell.

On behalf of the Continuing Committee which grew out of the Indianapolis Conference, Mr. O. C. Harn, of the National Lead Company, presented the resolution concerning the Producers' Section of the Structural Service Committee to the Convention, and he summed up the situation in an admirable manner by saying:

"Out of the clear sky last fall I received a letter from your esteemed president inviting me to attend a conference on the subject of advertising, to be held in Indianapolis in connection with the meeting of the Board of Directors of the Institute. I had no acquaintance with this movement. I didn't know what it meant, but being a manufacturer who sometimes tries to get literature into your private offices, I got on the train and went out there.

"I found there a number of manufacturers and a number of architects, mostly members of the Board, and I was asked to address this joint conference after one of your members had made a rather bold arraignment of the advertising which we manufacturers sent to you; he made a good case. One of the other architects at the conference added some horrible examples of the kind of things we manufacturers perpetrate upon you architects, and we seemed about ready to go to court.

"But it occurred to me that there was another side to the question, and the architects had talked pretty plainly, I ventured to do likewise and to submit that when it came to the question of advertising you architects didn't know it all. Thus, before we got through we were about in the position of the negro who preached a very good sermon to his congregation one Sunday morning upon the subject of the ark of the covenant. He had a great deal to say on the subject of seraphim and cherubim. After he had preached a good deal longer than I am going to talk, one of his hearers came to him and said: 'Deacon, that was sure a fine sermon that you gave this morning; that was a very uplifting sermon. But Deacon, is there any difference between a seraphim and a terrapin?' The Deacon was puzzled; he scratched his head and finally said: 'I believe there was some difference but they have made it up.'

"We went into conference after those two speeches of very plain words on both sides, to which I have alluded, and we found out, as a philosopher once said, that most arguments would cease if we could only agree upon the meaning of words. All differences nearly come out of a difference in our understanding of words and what we are trying to get at, and after architects and manufacturers had sat in a two-day conference, we found we were pretty nearly together.

"We have to grant that you need materials out of which to visualize your dreams. We manufacturers are in the business of making materials. We don't all make good materials, neither do you make good designs all the time. I know that because you have admitted it this morning.

"It is with the idea to better building, to couple the best designs with the best materials, and to eliminate the poor designs and the poor materials that we are here. Now let's get together. For example, we found in the Indianapolis conference that this was not a touch-and-go proposition. It was nothing that we could solve there because the problem was going to be a continuing one as long as buildings were built and as long as architects were architects. And so we saw the thing to do was to provide for a continuing body. We did appoint what you might call a continuing committee for a short time and we had an executive committee of architects and manufacturers which met quite frequently and we had a conference here on the first two days of this week (56 June). The result of the conference was a very small document, but like the minister who said he preached such a long sermon because he didn't have time to write a short one, this little document is the result of all those months of conference and, finally, of the conference from seven o'clock Monday night to two-thirty Tuesday morning, and I can say that practically every word was debated during that session. The resulting document is a brief for your consideration because of the fact that somebody has given a lot of work to it. I will read this as a resolution and then leave it for your consideration.

"I have one or two words in explanation of the resolution. If the manufacturers of the country were asked to form a new organization which might come into contact with you, to solve these problems that you wish solved, they probably would say we are organized to death already. If, on the other hand, a suggestion should be made that this idea be taken up by some present manufacturers' organization, then you might become involved in things you do not want to be involved in. So we have proposed that you simply expand your own going Committee on Structural Service just as far as you want to go, and no farther.

²This resolution appears in the Structural Service Department, under Committee Activities.
AN ENGLISH VIEW OF ARCHITECTURAL EDUCATION IN THE U. S.

"Getting the support of manufacturers in the work you have in mind and in the work you have already started, will simply be a matter of expansion at your own invitation."

THE PRESIDENT: I wish to thank Mr. Harn for this clear presentation of the subject and the manner in which the resolution was presented. (The resolution was unanimously adopted.)

An English View of Architectural Education in the United States

When our genial and sanguine friend, Robert Atkinson, Director of Education, Architectural Association School of Architecture, London, dropped in on us (meaning not me but all of us) a year or more ago, we hardly realized that his enthusiastic exterior hid a critical eye and an analytical soul which would record its impressions and deductions in due form in a "Report on the Education of the Architect in the United States of America." This report in attractive dress and of considerable length has just come to hand.

To the architect and critic who has been bemoaning the fact that Architecture in the United States has been for the last thirty years tossing about in the doldrums of electicism, without the north star of a purpose or the guidance of a directing genius, the first paragraph of Mr. Atkinson's report comes as a tremendous shock. Here it is: "After visiting the States the broad impression left on the mind is that the Mistress Art lives in America as it lives in France, and in no other country in the world. That is to say, that in America, as in France, Architecture is a national plant with a national flower, cultivated by a profession, but drawing its life from the people." Changing Mr. Atkinson's metaphor, truly any ship looks beautiful but the one the decks of which we tread, and, turning from our own heterogeneous, if costly, cargo and clearing the coal smoke from our eyes, we have seen England and France as fairy galleons with harmony, taste, and beauty manning the silken shrouds and with a national artistic purpose at the wheel. But here comes this new Christopher Columbus, who says we are all wrong, that our smoky, noisy Leviathan is the pearl-hued galleon, and that the arts and graces fare forth with us; and all this he ascribes to education.

In its development he discerns four distinct phases. First, in the latter quarter of the nineteenth century certain master minds dominated architectural education, whether by precept or by example Mr. Atkinson does not state. Next is the period of Beaux Arts domination, when imported French professors and the atelier system came in violent conflict with the old technical school system, in which Architecture was the handmaiden to Engineering. Third, a union of the technical school system and the Beaux Arts system, or what Mr. Atkinson calls a compromise. "It consisted roughly in the enlargement of the department of architecture in the great technical schools, in the employment of Beaux-Arts masters to teach design and the maintenance of an engineer as head of the department." In the fourth place, now beginning, he finds Architecture "awake and aware," and, while the Technical-Beaux Arts compromise continues to function with great success, great attention, he says, is being given to problems of architectural education and to the gradual elimination of its obvious evils.

Your reviewer can see, instead of the "four distinct phases" of Mr. Atkinson, only a gradual and healthful evolution. The first great architectural course (at the Massachusetts Institute of Technology) was organized with a Frenchman, M. Letang, at its head, and operated very much as it does now. The great period of Beaux Arts influence from 1900, lasting for about a decade, was noticeable in the draughting-rooms of the practitioners and not in the schools, which, after all, could not have been affected much, as they had always followed the Beaux Arts or standard methods of architectural study and presentation.

It is only in the organization of the Beaux Arts Society and its programs, which Mr. Atkinson does not mention, that the Beaux Arts has been injected in any greater degree than formerly into the schools. No, we have had, I am quite sure, a gradual evolution, in which the method of teaching has changed not at all, but in which engineering subjects such as higher mathematics and physics are being gradually eliminated, and the student is being more and more prepared for instant service and immediate pecuniary return on his graduation. In this we see the scrapping of two moss-grown theories; first, that such subjects as the calculus furnished invaluable and elsewhere un procurable mental training, and, secondly, that it was useless to give practical instruction in the school; all this must be acquired in years of ill-paid work in an architect's draughting-room.

Continuing, the report finds that "the triumph of American schools has been in the region of culture," that "the architect's relation to building remains a cultural liaison," that "a close training in Greek culture and its derivatives has not led to aesthetic freedom, but has tended to stereotype," "education should be concerned with the development and liberation of imaginative effort." Mr. Atkinson continues his report with a description of the "General Constitution of Schools in the U. S. A.," and ends with the publication of the curricula in full in Architecture of the following institutions. Especially interesting are the brief remarks which he appends to his description of each institution. Columbia University,—"the design side is very strongly stressed and the art side is not very strong." Massachusetts Institute of Technology,—"Although not possessing any notable teachers (written before the appointment of Professor Emerson) the spirit of co-operation between the professors and the sympathetic way in which they handle the students probably explain its superiority over other schools." University of Pennsylvania,—"is usually recognized as the leading architectural school in the United States, owing, I think, to the organizing genius of Professor Laird and the teaching ability of Professor Cret." University of California,—"The school suffers through not being near any museums or places where old work may be studied, although there is very good modern work in San Francisco." Carnegie Institute of Technology,—"The teaching of construction subjects is
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Tenth International Congress of Architects
Brussels, 4-11 September, 1922

The Tenth International Congress of Architects will be held under the auspices of the Société Centrale d'Architecture de Belgique in Brussels, 4-11 September, 1922, coincidently with an International and a National Retrospective Architectural Exhibition.

There was never a more auspicious moment than the present for holding an International Congress. The War, it will be remembered, brusquely interrupted the preparations of the Tenth Congress which was to have been held in Petrograd in May, 1915, under the august protection of H.I.M. Emperor Nicolas. During and even since the War the architects of various countries have been isolated from each other. The Société Centrale will be celebrating the fiftieth anniversary of its creation in 1872. This will be the second International Congress ever held in Brussels, the first being held in 1897.

The Congress, which will include delegates from all friendly countries, will be held under the distinguished presidency of M. Girault, Member of the Institute of France. The Belgian Committee under the Chairmanship of M. J. Caluwaers, with R. Moenaert as Secretary, is assured of the co-operation of Spain, Holland, Canada, Portugal, England, Italy, the United States and Switzerland.

language - Official Delegates may address the meetings in their own language. The official language of the Congress will be French, though any other language may be used provided a "résumé" in French is submitted at the same time.

American Architects Invited

All American architects are cordially invited to attend and take part in what will be one of the most unique and original gatherings of architects ever held. The subjects to be discussed are of international interest, the excursions will be instructive and the receptions of unusual interest. This will be the second International Congress of Architects to be held in Brussels, the first being held in 1897. That was the fourth congress to be held in

Expositions

An Architectural Exhibition will open 5 September in the Palais d'Égmont, lasting two weeks.

It will be divided in two general classes—(a) Belgian: 1. Retrospective; 2. Contemporaneous. Jury, Messrs. Maukels, Mercenier and Van Montfort. (b) Foreign: There will be as many Sections as there are countries represented.

Dues—The dues for members will be fifty francs. Ladies accompanying members (wives and daughters only) will be thirty francs, which will give them the privilege of visits, excursions and receptions.

Language—Official Delegates may address the meetings in their own language. The official language of the Congress will be French, though any other language may be used provided a "résumé" in French is submitted at the same time.

Program

4 Sept. Morning: Meeting of the Permanent Committee of the International Congress of Architects. 2 P. M. Formal opening in the Palais des Académies.


6 Sept. 9 A. M. to Noon: Visits to buildings of interest in Brussels. 2-6 P. M. Conferences. Evening. Receptions.

7 Sept.: Excursion to Antwerp, visits about the city and up l'Escaut. 2-5 P. M. Conferences, returning to Brussels in the evening.

8 Sept.: Visits about Bruges, returning to Brussels in the evening.

9 Sept.: Excursion to Antwerp, visits about the city and up l'Escaut. 2-5 P. M. Conferences, returning to Brussels in the evening.

10 Sept. 9 A. M. to Noon: Visits to the Exposition. 2-6 P. M. Conferences. Evening. Receptions.

11 Sept.: 10 A. M. Closing Exercises.

Subjects for Discussion

1. The responsibilities of the architect.
2. Schedule of Charges.
3. The appointing of State and Municipal Architects.
5. The Profession of Architecture; its aims and its rights.
7. Public, National, and International Competitions. The position of the winning architect in an International Competition or of one working in a foreign country.
8. Town Planning.
11. The preservation of Historic Monuments; with consideration of their economic, hygienic and social aspects.
FROM OUR BOOK SHELF

Europe; the fifth was held in Paris, 1902; the sixth in Madrid in 1904; the seventh in London in 1906; the eighth in Vienna in 1908; and the ninth in Rome in 1910.

Permanent Committee

The Permanent Committee of the Congress attends to all the business of the organization between sessions. It also selects the country in which the next Congress is to be held and chooses the subjects for discussion. There are about one hundred members from various countries. The American Section consists of Francis R. Allen, Glenn Brown, W. R. Mead, Cass Gilbert and George Oakley Totten, Jr., Secretary.

All desiring to attend or wishing further information should communicate with the Secretary, 808 17th Street, Washington, D. C.

News Notes

The annual meeting of the National Council of Architectural Registration Boards was held in Chicago at the time of the Institute Convention. The report of the Secretary-Treasurer showed that a large number of architects engaged in interstate practice had availed themselves of the services of the organization and that considerable effective work had been accomplished. Steps were taken to lighten the burden of the Secretary.

It is important that architects understand that the Council does not undertake to secure registration or transfer of registration. It is able to save the candidate time and expense in producing a statement of his record which can be submitted to all the states in which he desires to practice.

The Council Senior Examination is a plan worked out by the organization by which an architect registered without examination in his own state may by going before his own State Board ask for an examination for a change of status to one by examination, thus greatly facilitating his transfer of registration to those states where examinations are required of all.

The officers for next year are as follows:

President: Arthur Peabody, Madison, Wis.
First Vice-President: Sylvian Schnaittacher, San Francisco.
Second Vice-President: William H. Lord, Asheville, N. C.
Third Vice-President: M. I. Kast, Harrisburg, Pa.
Secretary-Treasurer: E. S. Hall, 1107-64 E. Van Buren St., Chicago, Ill.

The above with E. Lorch constitute the Executive Committee.

"L’ARCHITECTURE," 33 Rue St. Andre des Arts, Paris, 6e., the organ of the Société Centrale des Architectes, extends a welcome to members of the Institute traveling in France this summer, and expresses a wish that they will apply to its offices for any information they may desire.

ANKO KOBE announces that he is now associated in practice with Jordan Green, Essex Bldg., Newark, N. J.

AN EXAMINATION is about to be held by the Municipal Civil Service Commission, City of New York, for the position of Deputy Superintendent of School Buildings, for which there are six vacancies, at a salary of $6,500 annually. Two members of the Institute have been appointed by the Commission as examiners for this test. The duties of a Deputy Superintendent of School Buildings are the supervision of the erection of new school buildings and of their equipment; and repairs, maintenance, etc., of all existing buildings. The announcement of the subjects and weights, the duties and requirements of the examination, will be made as soon as it has been approved by the Commission.

The International Housing Congress will be held at Rome on 21-26 September for the discussion of housing problems and means for their solution. It is hoped that the Institute may be represented by those of its members in Italy at the time. Further information may be obtained from the Executive Secretary of the Institute, The Octagon, Washington, D. C.

New Honors for Massachusetts

We clip the following item from the Manchester Guardian:

"The Dean of Worcester, Dr. Moore Ede, got locked in the Cathedral after Evensong on Sunday and narrowly escaped having to remain all night in the building. After the congregation had dispersed the Dean remained to talk about the Cathedral fabric with an architect from Massachusetts. He believed he had in his pocket his master key to all the exits, and directed the verger to lock up and depart. Later the Dean found he had no key and could not ring the bell or display a signal through the window. The architect, however, was able to unbolt the great converging oak doors at the North Porch, and forcing them both together induced the lock catch to yield. He then climbed over the outer iron gates, 15 ft. high, and got a key from the precentor's house to liberate the Dean."

From Our Book Shelf

Heresies¹

Having just finished reading that serenely beautiful prose poem "Maria Chapdelaine," I am disturbed by the eager voice of Mr. Roger Fry. He has done a "heap of thinking," and has "weighed and found wanting" the accepted theory and orthodox practice of Architectural Design. The "heresies" themselves do not disturb me particularly. Some of them seem quite obvious. Some of them impress me as rather forced or factitious. They do not march abreast. Some are corollary to others and some are the result of looking at both sides with perhaps a hint of compensation for a possible over-statement. I do not get Mr. Fry's distinction between natural and

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

234

Obituary

John Theodore Comes

Elected to the Institute in 1908

Died at Pittsburgh, April 13, 1922

The death of John Theodore Comes leaves a void in the architectural life of Pittsburgh and of the nation that will take long to fill. His works, which are many, will not fail to remind his friends, co-workers, and associates of his energetic and tireless personality so long as they shall live.

He came to Pittsburgh about 26 years ago, at the age of 23, bringing with him an enthusiasm for his chosen profession that was to carry him far on the road to success. As a draftsman in St. Paul, Minnesota, he had early developed a facility at pen and ink drawing such as would have won recognition for him had he chosen to pursue this medium of expression. His talent, however, was early directed along the lines of ecclesiastical architecture and it is in this field that he became known from coast to coast.

To his ability and facility for expressing himself by his excellent drawings, he later added a remarkable gift for literary expression, both in writing and in lecture. In this way he gained for his advocacy of the good, the true, and the beautiful in his chosen branch of architecture a national audience that has been equalled by few other architects. Believing that men are influenced for good or evil by the nature of their surroundings, he applied all his energy and enthusiasm to the improvement of the character of architecture wherever he could make his influence felt. That he succeeded in large measure is attested by the many commissions that came to him from all parts of the country. His interest was not confined to architecture alone, but embraced the allied arts of painting, sculpture, metal working, stained glass and ceramics.

His burning faith and love for his Church was a religious instinct almost Mediaeval in its ardor. It carried him steadily onward to better and greater achievements, and his tireless devotion will remain alive in all his buildings. At the time of his death his work of creating beautiful Church Architecture was growing faster than ever. Much had been accomplished, but much more lay at his hand. "How inconsistent," he said, "to teach from the pulpit that the Church is the ground and pillar of truth, when perhaps the architectural pillar located back of the speaker, instead of being a pillar of honest masonry, is nothing but a sham of metal lath and plaster, painted to simulate marble, thereby violating the vital principle of truth in architecture."

Although the range of his work necessitated his frequent absence from home, he was ever ready to contribute his available time and efforts for the betterment already know but he has phrased it all well in his own way and we are without stint in rejoicing that another kindred spirit has made his little profession of faith in the great scheme of Things as They Ought to Be.

WILLIAM L. STEELE.

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of art in the city of his adoption. He was the creator and chief organizer of the Pittsburgh Architectural Club,—an opportunity that he embraced almost as soon as he joined the architectural community of Pittsburgh. Often he has told us of the pride and satisfaction he felt that he was privileged to accomplish this work, and he ever took an active part in all the life of the community and gave unsparingly of his time and energy to help forward all public movements for the advancement and improvement of the city and its affairs. Often it was his call to lead and initiate. In the Architectural Club for many years he was its mainstay as well as its Father. In the Pittsburgh Chapter of the Institute he took leading parts in the upbuilding of organized professional effort to its present high standing. He was its Vice President at the time of his death. He was also a member of the Municipal Art Commission.

His was a very lovable character. He had many friends both in and out of the profession. Always earnest and serious in his affairs, he was at the same time ready for humor and the enjoyment of lighter things. But when he was stricken it seemed that nothing in his life was finer than the courage, simplicity, and faith with which he was filled. We shall never forget the last visit made with Henry Kropp, after he had taken to his bed for the last time. No complaint passed his lips; no lack of interest in life was present; he knew he was doomed but dealt not with his fate. He accepted it, with almost no comment that he, at least, expressed. When we were ready to go he expressed a wish that we would hunt up a Bird House so that he might have it hung outside his window where he could see it from his bed. "Maybe a robin would come and nest in it," he said. E. B. L. and C. T. I.

George Spencer Morris Elected to the Institute in 1910 Died in Philadelphia, April 12, 1922

George Spencer Morris received his early training in the office of Addison Hutton, Architect, Philadelphia, and after experience in several Architectural offices in Philadelphia, he entered professional practice with William S. Vaux in 1900.

This partnership existed for a number of years when it was dissolved and after a practice alone for three or four years, Mr. Morris formed a partnership with Richard Erskine, and under the name of Morris and Erskine, continued, as the senior member of that firm until his death.

Mr. Morris had many interests outside the profession of Architecture. He was associated with the Academy of Natural Sciences, where he served as one of the Board of Curators, taking the greatest interest in the ornithological section. He had a large private collection of bird skins, which he had personally collected, not only locally but in Florida and the far west.

He had a local reputation as an artist and his work in lead pencil was of particular merit.

Mr. Morris was one of the earliest members of the T-Square Club of Philadelphia, and had been for many years an active member of the Philadelphia Sketch Club.

Letters to the Editor

Mumbo Jumbo (Continued)

It is indeed a strange circumstance that, on reading Mr. Magonigle's interesting transcription of certain Assyrian records, I should recognize a portion of a series of records which I unearthed during my first excursion in Assyria many years ago. I have always wondered about the missing text and its possible bearing upon the fragments I had so painfully deciphered. I am sure that it is before me, I am struck with the nice balance of the two records, how they supplement each other in thought, and make of the whole a complete parable of our profession. How trite but true it is to say that conditions have so little changed after all these years.

I am sure that Mr. Magonigle will be relieved to find that the continuation of his chronicle was not irrevocably lost, and I rejoice with him in our ability to present this complete record, at last, to those eager searchers after truth, with whom our profession is so notably filled in this day of grace.

The record, done into English as faithfully as I have been able, runs as follows, evidently picking up the narrative at the exact point where the previous record stopped. William Stanley Parker.

"...and the true God of our art sank back, heavy hearted, into his marvellous throne of Syracusan cedar and ivory, wrought by the greatest artist of the day and already famed throughout Assyria and even among the Chaldeans. The embracing curve of its ample back and the echoing curves of its slender spreading legs lent a rhythmic charm to the throne of this true God of Art, high up on its alabaster-faced altar. Alas, what calamity was now to be witnessed! With a warning creak, quickly followed by a continuous crash, the throne, the fragments of its God and both were precipitated as one onto the heads of the silent throng standing spellbound around the altar. "After the first awful moment of dismay and terror, the guards quickly cleared the populace from the temple. The minor Gods of Technique and Structural Security raised the True God of Art from his undignified position, prone amidst the debris of his throne. For a moment the spirit of the true artist flamed in his eye, but, God-like, he kept himself in hand and besought an explanation of the disaster. The God of Structural Security made a rapid survey of the fragments and quickly found the cause. The great artist, overzealous in his search for beauty of line and grace of proportion, had neglected the natural limitations of his medium. The cedar wood, familiar as roof beams, was little used in furniture and its nature was but poorly understood. The graceful curves and slender proportions left but little strength, the grain across the curve, already weak, was made still weaker by cutting for the inlays. So, ignorantly piling one weakness on another, did the artist work his own doom and the indignity of the True God he sought to serve."

The True God listened and for a long time walked apart. His faith in the skill of his great artist was somewhat shaken. It had to be admitted that the graceful lines of his throne were no less graceful now that the remnants were temporarily reassembled, but as a throne it was of little use. Was it then so fine a work of art if it failed in serving its chief purpose? In failing to support its God, didn't it also fail to support his plea for the preeminence of the artist? Was it possible that there was another God, more nearly equal to his own stature and dignity than he had supposed, who was challenging his right to preeminence, who was claiming with some show of justice the right to a throne beside his own?

"It were well to investigate. Every part of his temple and the adjoining palace had been constructed under the direction of the chief artists of the land. Were there hidden defects elsewhere in their work? Calling the God of Structural Security and the God of Technique, who somehow as they approached had acquired a certain dignity he
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

had not noticed in them before, he made a circuit of the
precincts of the temple.

“A certain stain high up on the walls attracted his eye
and he enquired of his companions about it. They informed
him that it was to keep water in, as the building was
dried brick on the walls so as to penetrate even to the inner
frescoed walls. Yes, an alternative cueing to the wall
had been suggested but the chief artist insisted upon the
stepped cresting of the parapet which, while artistically
effective, was cleverly designed to catch and hold the rain,
until it became absorbed in the massive but sponge-like
walls. And how about the walls themselves? Undoubtedly
there was a constant deterioration in progress.

“The True God of Art uttered a troubled sigh and passed
through the deep portal. Gaining the center of the broad
terrace he turned to gaze upon the noble entrance he had
so frequently admired. The pure alabaster that faced the
pylons glittered in the sun, and the shadows of the carving
captured, with gay tints, reflected lights from the terrace
tiles. It was beautiful as ever; but now his restless, search-
ing eye, detected in the corner a slab of alabaster stained
and partly displaced. Further investigation disclosed a
crack extending through the wall. Where did it lead, and
what had caused it?

“Safely he entered again the temple door and seeking
rest, sat for safety on the substantial throne wrought for
the God of Structural Security, and let his mind speak
freely to his attendant Gods. ‘Why do you seem so different
to my eyes than you have seemed so short a space of
time ago? I confess you have seemed to be attempting to
usurp the central place wherein my throne has for long
years been set and held in reverence. Yet, as I now detect,
your arrogance is much less marked than I had come to
think. You speak considerately of the faults we have ob-
served, nor claim a certain knowledge for yourselves of
all the various problems that ’would seem surround the
building of such a temple as this of mine. Tell me what
your ambitions really are. Are you usurpers, or faithful
supporters of that great guiding spirit of our profession,
beauty, the inspired imaginings of the artist, without which
we labor in vain? Speak.’

“The God of Structural Security answered thus: ‘We are
matter of fact people, not always understood by those of
more emotional tendencies. We are far from seeking to
usurp your throne, indeed we do but seek to make it more
secure and permanent. The simple days and methods now
are passed, and problems of security have arisen that call
for careful research, test, and thought. Without such ser-
vice the artist could not work his beauty into terms of use-
fulness. And without usefulness, ability to stand the service
of enamelled tiles, the settled keystone of an arch, cracked
lintels, rotting roof beams, everywhere the True God looked
were found defects that marred the beauty of the artist’s
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were found defects that marred the beauty of the artist’s
work.

"We seek but recognition of the natural dignity of the
functions that we serve. Keep your high place on a
throne that is truly worthy of your art. We are content
to sit on either hand, duly subordinated, yet given that
recognition by the True God which alone will inspire
respect for our efforts in the minds of those too frequently
blind worshippers of your high estate.’

“The True God rose and took a hand of each, and
with understanding glistened in his eye. Thereafter on the
altar stood three thrones, nor any doubted the supremacy
of Art nor the solid virtues of the lesser Gods.”

New Members Elected

(As of May 5, 1922.)

BOSTON: James S. McIntyre, New Bedford.
DAYTON: Frank J. Weis. ILLINOIS: Howard L.
Cheney, Arthur S. Coffin, Gardner C. Coughlin, Stan-
ley Moyer Peterson, Chicago. NEW YORK: Pleas-
stant, John Richmond. PHILADELPHIA: J. Frank Clark.
TENNESSEE: A. B. Baumann, Jr., Herbert R. Graf,
John Richard Graf, R. F. Graf, Cem Henry Meyer,
E. E. Parmelee, Clarence A. Tarwater, Knoxville;
Charles Deas, James L. Gatling, Estes W. Mann, Mem-
phis. TEXAS: Allan Burton, Dallas. VIRGINIA: Alfred
Garey Lambert, Richmond. WISCONSIN: George A. Kemm-
itz, Milwaukee.

(As of June 3, 1922.)

BOSTON: Louis Elbridge Jackson, Frederic M.
Kendall, Lyman Sise, Albert E. West, BROOKLYN:
Isaac Kallich. CENTRAL ILLINOIS: Roford New-
comb. Urbana. COLUMBUS: Clarence Earl Richards.
DAYTON: Edward F. Musselman. ILLINOIS:
Scott C. Dyer, Herbert H. Green, Philip G. Odgers,
Chicago. MICHIGAN: Harvey W. Jackson, Grand
Rapids. NEW YORK: John J. Klaber, PITTS:
BURGH: Joseph Browne Dick German, Randolph L.
Patterson, L. G. Tucker, Charleston. W. Va. Albert
Ford Dickey, Huntingdon, W. Va. Thomas P. Jones,
A. F. Wysong, Princeton, W. Va. ST. LOUIS: Henry
W. Hall, E. L. Fleisch, Paul Valenti, Wm. F. Wisch-
meyer.

(As of June 5, 1922.)

ILLINOIS: Hugh M. G. Garden. KENTUCKY:
J. A. Baylor, Louisville. NORTH CAROLINA:
Harry Barton, Greensboro. PHILADELPHIA: Ga-
briel B. Roth. TEXAS: David S. Castle, Abilene.

(As of June 7, 1922.)

BOSTON: George F. Shepard. BROOKLYN: Charles
C. Wagner. Frederick H. Briggs, Plandome, L. I.
COLORADO: Arthur E. Saunders, Boulder. Eugene
G. Groves, Burnham Hoyt, Merrill H. Hoyt, Denver.
DAYTON: Ralph G. Rossell, NEW JERSEY: Fred-
eric Bigelow, Chas. A. Horton, Neil J. Covey, Newark.
Seumm Williams, Rahway. PITTSBURGH: James
Llewally Montgomery, Edward J. Wood, Charleston,
W. Va. J. C. Burchinal, Fairmont, W. Va. SAN
FRANCISCO: James W. Placheck, Berkeley. SOUTH-
ERN CALIFORNIA: Stiles Oliver Clements, Walter
Swindell Davis, Wm. Field Staunton, Jr., Edw. Lloyd
Taylor, Walter Webber, Donald R. Wilkinson, David
J. Wither, Los Angeles. Roland E. Coate, Passadena.
ERNEST CALIFORNIA: Stiles Oliver Clements, Walter
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Structural Service Department appears on the second right-hand page following
This WOLFF Built-in Bath

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WOLFF "PLANET" Built-in Bath with concealed fixtures supplies at low cost the sanitary closed front and classic lines, space economy and convenience of the finest built-in tub. Owners find both the effect and the economy gratifying.

Wolff Quality Plumbing insures durability far beyond the ordinary. The presence of Wolff fixtures in a structure implies quality construction throughout.

A three-color folder has been issued showing the Planet Bath in various styles, with perspective drawings and floor plans. We will gladly send this together with folders indicating the completeness of the Wolff line—on request.

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RANGE BOILERS
POTTERYWARE
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MARBLE

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OMAHA
CINCINNATI
ST. LOUIS
DENVER

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The reason why RAYMOND Concrete Piles sustain their full rated loads is because the Concrete in every Pile is protected (in the ground) while setting, by a shell of spirally reinforced steel, which preserves the full length and taper irrespective of known or unknown underground conditions.

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Chicago: 111 W. Monroe Street
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SIXTY TONS LOAD
Pile 27 ft. 4 in. long
Settlement 0.013 feet
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Total job 3,158 Piles.

INDUSTRIAL SECTION July, 1922
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
Structural Service Department

SULLIVAN W. JONES, Associate Editor
LEROY E. KERN, Assistant

In connection with the work of the Committee on Structural Service of the American Institute of Architects and in collaboration with other professional societies and organized bodies having the same objective—improvement in building materials and methods and better shelter for humanity in all its manifold vocations and avocations.

Committee Activities

The Joint Conference on Advertising.—The second Joint Conference on Better Advertising to Architects met in Chicago on June 5th and 6th. At the Monday afternoon, June 5th, session a Committee of twelve, consisting of architects and manufacturers was appointed to prepare a Resolution expressing the purpose of the Conference and providing for the action which the Conference wished the Institute to take.

The Committee drafted the following Resolution and presented it to the Conference on the morning of June 6th:

Whereas the Joint Conference on Better Advertising to Architects between the Board of Directors of the American Institute of Architects and the Building Materials Producers of the United States and reported in the Journal of the A.I.A., of April, 1922, and the Conference in Chicago held June 5th and 6th, 1922, has demonstrated the great desirability of a better understanding among architects and producers as to their common interest in the characteristics, presentation and appropriate utilization of products entering into construction, be it

Resolved by the American Institute of Architects, in 55th Annual Convention assembled, that the Structural Service Committee of the American Institute of Architects be authorized to create a Producers’ Section of the Structural Service Committee as a sustaining body to collaborate in the following duties:

(a) To advise and counsel with manufacturers, who may so desire, on the character of their advertising as to size, form, and content.

(b) To assist in furthering the use, by Architects and Producers, of the Standard Construction Classification adopted by the American Institute of Architects.

(c) To promote sincerity and reliability of statement in advertising.

The Conference adopted it and arranged for its transmission to the Board of Directors of the A.I.A. The Board adopted the Resolution and referred it to the Convention with a favorable recommendation. The Resolution was adopted by the Convention without a negative vote at the session on the morning of Friday, June 9th.

The creation of a Producers Section of the Structural Service Committee signals the beginning of an era of closer cooperation between manufacturers and architects than has been known since the architect was the master builder, used local materials, wrought by local craftsmen who were also his friends.

The induction of a number of manufacturers into a sort of associate membership in the Structural Service Committee will make possible the broadening of the Committee’s work on advertising and its development into a real service to the manufacturing and the architectural fraternities. It provides for a free exchange of ideas, the joint consideration of the architects and manufacturers common needs and problems, and last but most important of all it furnishes the means of substituting mutual confidence for the mutual suspicion which has characterized the relationship of these two important groups in the building industry for a great many years.

The Lumber Conference.—The result of the series of conferences held in Washington during the week of May 22, under the auspices of the Department of Commerce, between the producers, distributors and consumers of lumber was, from the architect’s standpoint, disappointing.

The National Lumber Manufacturers Association was asked to appoint a Committee representative of all interests with a view to the adoption of a standard nomenclature, standard grades, marking and practices. It is expected that another Conference will be held in the early fall to create the necessary organization for the formulation and working into practice of the proposed standards.

The misuse of specie names, the confusion resulting from the inconsistencies of grading rules as applied even to the same wood by different Associations, the lack of standard sizes and the absence of all guarantees of quality, seem to call for immediate action; and it does appear unfortunate that the initial move toward the removal of the architect’s difficulties in specifying what he needs will not be met for some months to come.

The Conference was productive of one good result—a better understanding between producers and consumers.

The Small House Service Bureau and the Structural Service Committee.—Arrangements are in the making providing for the Structural Service Committee to function with the Small House Service Bureau in connection with the preparation of the Small House Specifications and the Question and Answer Column of the Small House Clinic.

It is proposed that these specifications shall be written in co-operation with the manufacturers interested who are to become members of the Producers Section of the Structural Service Committee. By adopting this procedure it is expected that the Institute will be able to exert a very powerful influence toward raising the standard of architectural practice in connection with the Small House.

Abstracts

It is the purpose of the Structural Service Committee and THE JOURNAL jointly to give in this division each month, brief abstracts of all publications by the Government Departments and Bureaus, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and which afford architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.

Whitewash and Cold Water Paint. (25b24)—(Bulletin No. 506 of the National Lime Association. Size 6” x 9”. Pages 8.) Ordinary Whitewash.—Place about ten pounds of quicklime into a vessel with two gallons of water. Cover
Our innate modesty forbids our making any mention of the speed which we made in completing the Terra Cotta on the above building. However, we feel we can say that this job was enclosed more rapidly than any other building of a similar type which has been erected in Cleveland. It goes without saying that no progress of this kind could have been made had we not had your cooperation and your rapid delivery of materials. The manner in which you handled the work was highly satisfactory and we are all very much pleased with the results.

Very truly yours,

The Lundoff-Bicknell Co.

B. F. Keith's Theatre and Office Building, Cleveland, Ohio. C. W. & Geo. L. Rapp, Architects; The Lundoff-Bicknell Company, Builders. Atlantic Terra Cotta in glazed conglomerate with slight touches of color, from base course to roof.

Atlantic Terra Cotta Company
350 Madison Avenue, New York

Southern Factory
Atlanta Terra Cotta Company
Atlanta, Georgia
the vessel with an old piece of carpet or burlap and let it stand for about an hour, stirring, if necessary, to prevent burning. At the end of that time the material will be ready to use.

If too little water is used, the lime will not be completely slaked or hydrated, and besides it will be burned. Burned or scorchd lime is generally lumpy and transparent after enough water is added to bring it to brush consistency. Too much water, on the other hand, retards the slaking by lowering the heat.

A simpler way in which to prepare this whitewash is to mix ordinary commercial hydrated lime with water until the proper brush consistency is obtained. This whitewash will not stand the weather and will rub off rather easily.

**Interior Whitewash.**—The following formula is recommended by insurance companies: (1) Slake 62 pounds (1 bushel) of quicklime in 15 gallons water. Keep the vessel covered until steam stops coming off. Stir occasionally to prevent scorching. Or, mix 80 pounds of commercial hydrated lime with water to a creamy consistency. (2) Mix 2½ pounds of rye flour thoroughly with ½ gallon of cold water and then thin with 2 gallons of boiling water. (3) Dissolve 2½ pounds of common salt in 2½ gallons of hot water. Mix (2) and (3), then add (1), and stir until well mixed.

**Exterior Weatherproof Whitewash.**—Slake 62 pounds of quicklime (1 bushel) in 12 gallons of water; or mix 80 pounds of commercial hydrated lime with water to a cream-like consistency. (2) Dissolve 2 pounds of common salt and 1 pound of sulphate of zinc in 2 gallons of boiling water. (3) Provide 2 gallons of skimmed milk. Pour (2) into (1), then add (3), and stir well.

**B.**—(1) Slake 8 pounds of quicklime in 2 gallons of hot water, or mix 10 pounds of commercial hydrated lime to a cream-like consistency with water. (2) Dissolve 1 pound of carbonate of soda in ¼ gallon of boiling oil. (3) Soak in cold water for at least 8 hours ¼ pound of common glue and 1 pound of rice flour, and then thoroughly dissolve the glue mixture in ¾ gallon more water in a double boiler. Mix (1) with (2); then add (3).

**C.**—(1) Slake 6 pounds of quicklime in 1½ gallons of hot water or mix 8 pounds of commercial hydrated lime to a cream-like consistency with water. (2) Dissolve 4 ounces of white resin in 12 fluid ounces of boiled linseed oil. (3) Beat 6 pounds of whitening in 1 gallon of boiling water. Mix (2) with (1) while hot; then add (3).

**Simple Cold Water Paints.**

**A.**—Mix 10 pounds hydrated lime, 1 pound casein, 1½ ounces soda ash.

**B.**—Mix 10 pounds hydrated lime, 1 pound casein, 1 ounce powdered soap, 2 ounces pulverized borax, 3 ounces dry carbonate of soda.

The ingredients in either of the foregoing formulas may be mixed dry and thinned to brush consistency with water when used.

**C.**—(1) Soak ½ pound of white glue at least four hours in 1 pint of water and then fully dissolve in 1 quart more water in a double boiler. (2) Mix 16 lbs. of hydrated lime thoroughly in 1 gallon of hot water. Pour (1) into (2) and mix well.

**D.**—Mix 12 lbs. of quicklime slaked in 3 gallons of hot water or 16 lbs. of commercial hydrated lime to a cream-like consistency. (2) Thin 3 lbs. of silicate of soda (water glass) with 1 gallon of hot water; then stir in ½ pounds of casein and continue to stir until all is dissolved. (3) Soak 2 lbs. of strong white glue at least 8 hours in ½ gallon of cold water; then dissolve in ½ gallon more water in a double boiler. (4) Dissolve 2 lbs. of pulverized alum in ½ gallon of hot water, to which is added 24 lbs. of whiting and (2) well, then stir in (3), add (4), and again stir well.

**Waterproof Cold Water Paint.**—Beat up 1 lb. of casein with 1 pint of cold water; dilute with ¾ gallon of cold water and add 8 fluid ounces of ammonia. Stir this until a smooth jelly is formed and then add ¼ fluid ounce of formaldehyde as a preservative.

Stir in hydrated lime until a moderately thick paste is formed and then dilute with water, alcohol, turpentine, or linseed oil as may be desired until proper brush consistency is obtained.

**Washable Cold Water Paint.**—(1) Soak ½ pound of white glue at least four hours in ½ gallon of cold water; then completely dissolve by boiling in a double boiler. (2) Dissolve ¼ pound of phosphate of soda in ¼ gallon of hot water. (3) Mix 16 lbs. of hydrated lime thoroughly in 1 gallon of hot water. Pour (1) into (3). Stir well, then add (2), and stir again.

**Lighthouse Whitewash.**—The following is the formula used by the United States Lighthouse Board: Make a thin paste of 50 lbs. of hydrated lime in boiling water (or slake ½ bushel of quicklime in about 7½ gallons of water, keeping the vessel well covered and stirring occasionally). Add 1 peck of common salt dissolved in hot water, 3 pounds of rice flour boiled to a thin paste and stirred in while hot, ½ pound of Spanish whitening and 1 pound of clear glue thoroughly dissolved in boiling water. Mix well in the order given and let the mixture stand for several days before using. Apply as hot as possible with a brush or spray.

**General Notes.**—Whitewashes and cold water paints should always be laid on, and no attempt should be made to brush out as is done with oil paints. Alum added to whitewash prevents its rubbing off. Flour paste will also prevent rubbing off, but, when it is used zinc sulphate must be added as a preservative.

Molasses causes lime to penetrate wood and plaster better. One pint of molasses to 5 gallons of whitewash is sufficient.

A solution of silicate of soda, or water glass (15 degrees Baume), makes a fireproof cement of whitewash when used in the proportion of one part of the solution to ten parts of whitewash.

By adding 1 pound of cheap bar soap dissolved in 1 gallon of boiling water to every 5 gallons of whitewash, a gloss similar to oil paint can be obtained.

**Timing.**—Most of the earth colors are fast in the presence of lime and practically any desired tint may be obtained by using these pigments in dry powdered form, either singly or in combination. When lamp black is used, however, it should first be mixed to a thick paste in a hot soft soap solution, so as to remove the grease.

In addition to the above formulas, this bulletin describes equipment required, preparing the surface, and gives the covering capacity.

Since the publication of Bulletin 304, the Research Laboratory of the National Lime Association has been conducting an extensive investigation of whitewashes and cold water paints involving exposure tests of more than a hundred formulas. As a result of this work the following formulas also have been shown to have special merit.

**A.**—A simple lime paint is prepared by dissolving a mixture of three pounds of borax and five pounds of casein in three gallons of water and adding this to a paste made of fifty pounds of hydrated lime with six gallons of water. Thin with more water if necessary.
Convenience of operation is just as important as convenience of location. Years of home building experience have taught where to place wall switches for greatest convenience. Years of electrical switch experience have taught a better, more simple switch mechanism. The new G-E Tumbler Switch can be operated by the flip of a finger or the sweep of an elbow. One small lever which operates up and down, replaces the two push buttons of the old style wall switch. Distinctly individual and neat in design, the new G-E Tumbler Switch adds to refinement by adding to convenience. Thoroughly representative of G-E quality, these new G-E Tumbler Switches are made in either flush or surface types and will harmonize with any decorative scheme, in home, hotel or office. The General Electric Company will be pleased to send a sample of the G-E Tumbler Switch to any architect. Address Supply Dept., Schenectady, N.Y.
8.—Dissolve a mixture of three pounds of trisodium phosphate and five pounds of casin in three gallons of water and add this solution to a paste made of fifty pounds of hydrated lime with six gallons of water. Mix well and then add slowly, with stirring, a mixture of five pints of formalin in three gallons of water.

For the hydrated lime in either of these formulas thirty-eight pounds of quicklime may be substituted. This should be carefully slaked to a thick paste and cooled before adding the other constituents.

Concrete Building Block and Brick. (3k) — (Booklet Published by the Portland Cement Association. Pages 23. Size 6" x 9". Illustrated.)—This booklet discusses such fundamental principles underlying the manufacture of concrete building block and brick as workmanship, materials, consistency of concrete, surface finish, strength, types of blocks and types of machines. It also contains the following standard specification of the American Concrete Institute:

Specifications and Building Regulations for Concrete Stone, Building Block and Brick.

1. Concrete architectural stone and building block for solid or hollow walls and concrete brick made in accordance with the following specifications and meeting the requirements thereof may be used in building construction.

2. Tests.—Concrete architectural stone, building block for hollow and solid walls and concrete brick must be subjected to (a) Compression and (b) Absorption tests. All tests must be made in a testing laboratory of recognized standing.

3. Ultimate Compressive Strength.—(a) Solid concrete stone, building block and brick. In the case of solid stone, block and brick, the ultimate compressive strength at 28 days must average one thousand (1,000) lb. per sq. in. of gross cross-sectional area of the stone as used in the wall and must not fall below one thousand (1,000) lb. per sq. in. in any test.

(b) Hollow and Two Piece Building Block. The ultimate compressive strength of hollow and two piece building block at 28 days must average not less than fifteen hundred (1,500) lb. per sq. in. of gross cross-sectional area of the block as used in the wall, and must not fall below seven hundred (700) lb. per sq. in. in any test.

4. Gross Cross-Sectional Areas.—(a) Solid concrete stone, block and brick. The cross-sectional area shall be considered as the minimum area in compression.

(b) Hollow Building Block.—In the case of hollow building block, the gross cross-sectional area shall be considered as the product of the length by the width of the block. No allowance shall be made for the air space of the block.

(c) Two Piece Building Block.—In the case of two piece building block, if only one block is tested at a time, the gross cross-sectional area shall be regarded as the product of the length of the block by one-half of the width of the wall for which the block is intended. If two blocks are tested together, then the gross cross-sectional area shall be regarded as the product of the length of the block by the full width of the wall for which the block is intended.

5. Absorption.—The absorption at 28 days (being the weight of the water absorbed divided by the weight of the dry sample) must not exceed ten (10) per cent when tested as hereinafter specified.

6. Samples.—At least six samples must be provided for the purpose of testing. Such samples must represent the ordinary commercial product. In cases where the material is made and used in special shapes and forms too large for testing in the ordinary machine, smaller specimens shall be used as may be directed. Whenever possible the tests shall be made on full sized samples.

7. Compression Tests.—Compression tests shall be made as follows: The samples to be tested must be carefully measured and then bedded in plaster of paris or other cementitious material in order to secure uniform bearings in the testing machine. It shall then be loaded to failure.

The compressive strength in pounds per square inch of gross cross-sectional area shall be regarded as the quotient obtained by dividing the total applied load in pounds by the gross cross-sectional area, which area shall be expressed in square inches computed according to Article 4.

When such tests must be made on cut sections of block, the pieces of the block must first be carefully measured. The samples shall then be bedded to secure uniform bearing, and loaded to failure. In this case, however, the compressive strength in pounds per square inch of net area must be obtained and the net area shall be regarded as the minimum bearing area in compression. The average of the compressive strength of the two portions of block shall be regarded as the compressive strength of the samples submitted. This net compressive strength shall then be reduced to compressive strength in pounds per square inch of gross cross-sectional area as follows:

The net area of a full sized block shall be carefully calculated and the total compressive strength of the block will be obtained by multiplying this area by the net compressive strength obtained above. This total gross compressive strength shall be divided by the gross cross-sectional area as figured by Article 4 to obtain the compressive strength in pounds per square inch of gross cross-sectional area.

When testing other than rectangular block, great care must be taken to apply the load at the center of gravity of the specimen.

8. Absorption Tests.—The sample shall be first thoroughly dried to a constant weight at a temperature not to exceed two hundred and twelve (212) degrees Fahrenheit, and the weight recorded. After drying the sample shall be immersed in clean water for a period of forty-eight hours. The sample shall then be removed, the surface water wiped off, and the sample re-weighted. The percentage of absorption shall be regarded as the weight of the water absorbed divided by the weight of the dry sample multiplied by one hundred.

9. Limit of Loading.—(a) Hollow walls of concrete building block. The load on any hollow walls of concrete block, including the superimposed weight of the wall, shall not exceed one hundred and sixty-seven (167) lb. per sq. in. of gross area. If the floor loads are carried on girders or joists resting on cement pilasters filled in place with slush concrete mixed in proportion of one part cement, not to exceed two (2) parts of sand and four (4) parts of gravel or crushed stone, said pilasters may be loaded not to exceed three hundred (300) lb. per sq. in. of gross cross-sectional area.

(b) Solid Walls of Concrete Block.—Solid walls built of architectural stone, block or brick and laid in portland cement mortar or hollow block walls filled with concrete shall not be loaded to exceed three hundred (300) lb. per sq. in. of gross cross-sectional area.

10. Girders and Joists.—Wherever girders or joists rest upon walls in such a manner as to cause concentrated loads of over four thousand (4,000) lb. the block supporting the girders or joists must be made solid for a distance eight inches from the inside face of the wall, except where a suitable bearing plate is provided to distribute the load.
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A charming effect in a large panel design. Solid No. 1 quality White Pine stiles and rails and 3-ply rotary cut California White Pine panels. Bead and cove sticking.

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A beautiful 5 panel door. Solid No. 1 quality California White Pine stiles and rails and 3-ply rotary cut California White Pine panels.

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LONG-BELL doors are made in our factory at Weed, California, in the heart of the California White Pine district. No other wood enters into the manufacture of Long-Bell doors except the oak dowels. By means of thoroughly modern machinery, the skill of the best door makers, and, because of the natural qualities of California White Pine, we are able to produce doors that have won national recognition for their uniform high quality.

California White Pine is a soft wood with a beautiful grain. It resists weather to a remarkable degree. As made into Long-Bell doors, it does not check or split and it takes enamels, paints and stains perfectly. Fewer coats are necessary to obtain the desired effect. Long-Bell doors are manufactured with oak dowels and waterproof glue and come in numerous attractive designs in standard sizes.

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over a sufficient area to reduce the stress so it will conform to the requirements of Article 9.

When the combined live and dead floor loads exceed sixty (60) lb. per sq. ft. the floor joists shall rest on a steel plate not less than three-eighths (3/8) of an inch thick and of a width one-half to one inch less than the wall thickness. In lieu of said steel plate the joists may rest on a solid block which may be three (3) or four (4) inches less in wall thickness than the building wall, except in instances where the wall is eight (8) inches thick, in which cases the solid block shall be the same thickness as the building wall.

11. Thickness of Walls.—(a) Thickness of bearing walls shall be such as will conform to the limit of loading given in Article 9. In no instance shall bearing walls be less than eight (8) inches thick. Hollow walls eight (8) inches thick shall not be over sixteen (16) feet high for one story or more than a total of twenty-four (24) feet for two stories.

(b) Walls of residences and buildings commonly known as apartment buildings not exceeding four stories in height, in which the dead floor load does not exceed sixty (60) lb. or the live load sixty (60) lb. per sq. ft. shall have a minimum thickness in inches as shown in Table 1.

### TABLE 1

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<thead>
<tr>
<th>No. of Basement</th>
<th>First Story</th>
<th>Second Story</th>
<th>Third Story</th>
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<td>16</td>
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12. Variation in Thickness of Walls.—(a) Wherever walls are decreased in thickness the top course of the thicker wall shall afford a solid bearing for the webs or walls of the course of the concrete block above.

13. Bond and Bearing Walls.—Where the face wall is constructed of both hollow concrete block and brick, the facing shall be bonded into the backing, either with headers projecting four (4) inches into the brick work, every fourth course being a header course, or with approved ties, no brick backing to be less than eight (8) inches thick. Where the walls are made entirely of concrete block, but where said blocks have not the same width as the wall, every fifth course shall overlap the course below by not less than four (4) inches unless the wall system alternates the cross bond through the wall in each course.

14. Curtain Walls.—For curtain walls the limit of loading shall be the same as given in Article 9. In no instance shall curtain walls be less than eight (8) inches in thickness.

15. Party Walls.—Walls of hollow concrete block used in the construction of party walls shall be filled in place with concrete in the proportion and manner described in Article 9.

16. Partition Walls.—Hollow partition walls of concrete block may be of the same thickness as required in hollow tile, terra cotta or plaster block for like purposes.

Grading Rules for Lumber. (19a2) (Lumber Inspection Rules. Pages 541. Size 4 3/8" x 5 3/4".)—This publication contains the rules governing the manufacture and inspection (grading) of different kinds of lumber, weights of lumber, comparative strength of building timbers, drawings and dimensions of standard patterns and other data useful to the consumer of lumber.

Modern Lighting; Examples of Its Successful Application in the Industries. (31a1) (Engineering Department, National Lamp Works. Size 7 3/4" x 10". Pages 44.)—Contains 20 full page half-tone illustrations of well lighted interiors, giving complete data on the location of units, type of equipment, size of lamp and amount of illumination resulting. Other pertinent facts on illumination are included. Of particular value as a "copy book."

### Index

Structural Service Department from January, 1919, to June 1922, Inclusive.


(3a) Cement.—Storage of Cement, Sept., 1920.


(3b) Integral Compounds and Concrete Floor Treatments.—Calcium Chloride and Vitrifiux, June, 1920.

(3b2) Hardening and Dustproofing.—Hardening and Dustproofing Cement Floors, Feb., 1921.


(3c3) Hydrated Lime.—Tentative Spec. for Masons’ Hydrated Lime, July, 1921.

(3e4) Slag.—Crushed Slag Aggregate for Concrete, Sept., 1920.

(3g1) Brick.—Building Brick, Manufacture and Properties, May, 1920.—Spec. for Building Brick, July, 1921.

(3g2) Face Brick.—May, 1920.

(3g3) Sand Lime Brick. Nov., 1921.

(3g4) Paving Brick.—Specifications for Paving Brick, May, 1920.—Standardization of Size of Paving Brick, Jan., 1922.

(3g5) Refractory Brick.—Porosity and Volume Changes of Clay Fire Brick at Furnace Temperatures, Aug., 1920.

(3h) Gypsum.—May, 1921. Gypsum in 1920. Dec, 1921.

(3m) Mortar.—Plasticity of Mortars and Plasters, Jan., 1921.

(3m4) Non-staining Mortar.—Non-staining Mortar for Pointing, Setting, and Backing, Sept., 1920.

(4) Concrete and Concrete Work. A tentative Specification for Concrete and Reinforced Concrete, Feb., 1922.—Effect of Moisture Content upon the Expansion and Contraction of Plain and Reinforced Concrete, Mar., 1922.—Reinforced Concrete, May, 1920.—Standardization of Re-Inforced Steel, Aug., 1920.—Bond Between Concrete and Steel, Mar., 1922.—Placing Concrete, Mar., 1921.—Permeability of Stone and Concrete, Nov., 1920.


(9) Architectural Terra Cotta. A New Departure in Standard Specifications, April, 1921.

(11) Paving. Concrete Floors, February, 1919.
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(13) Structural Steel and Iron. Welded Steel Connections, July, 1921.


(19a1) Classification. Lumber Standards and Classification, Feb., 1920.


(19e14) Weather Strips, March, 1922.

(19e61) Glueing and Plywood. Plywood Panels, Jan., 1921.


(19e9) Flooring. Wood Floors, Feb., and March, 1919.


(21e) Stucco. Stucco Designs in the Small House Competition, June, 1921.

(21e1) Cement Stucco. Portland Cement, Stucco, April, 1921.

(21e2) Magnesite Stucco. Feb., 1922.

(21f) Scraffito. Scraffito, Feb., 1921.


(22) Floor and Wall Tile. Tile, Composite, Elastic, Mar., 1919. Tiles, June, 1921.


(28) Furnishings. Linoleum, Mar., 1922—Canvas, June, 1921.


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S. SCOTT JOY, Architect
INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
E. W. SPROUL CO., Contractors
July, 1922
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THE THRONED GODDESS
Shadows and Straws

WHEN ANATOLE FRANCE recently visited Berlin he was greatly impressed with the throned goddess of which we present an illustration as the frontispiece of this issue, and since that time the statue has been much discussed and seems to have evoked universal admiration. It was acquired by the Berlin Museum in 1915, and photographs of it were shown in London in 1916. Leading authorities in England consider the work to be the most important known example of the late Archaic period, probably belonging to a date somewhat earlier than 480 B.C. Monsieur France considered that the statue was of the time of Phidias, or even by a member of his school, but others prefer to place it in the late Archaic period. While the statue seems to have been colored,—the natural colors having probably been used for the eyes and eyebrows, the lips and the hair,—the dress and chair are believed to have been inlaid with patterns in bronze. The statue is supposed to have been found not in Locri, Greece, as originally asserted, but on the site of the Greek Colony of Locri in South Italy. Is she Hera or Aphrodite, or Persephone, or merely a patron goddess of some town? Probably her secret will never be known, which matters little. Serenely she sits, her smile evoked by what memory we know not, perhaps, may one not surmise, by the sheer happiness of her secure place in Greek art.

THE INSTITUTE Committee on Education announces the forthcoming publication of "The Significance of the Fine Arts," the work upon which it has now been engaged for some two years. The book of 500 pages, well illustrated, is in two parts, the first devoted entirely to architecture, the four periods being covered as follows: Classic, C. Howard Walker; Medieval, Ralph Adams Cram; Renaissance, H. Van Buren Magonigle; Modern, Paul P. Cret. In part two there are the following contributions: Painting, Bryson Burroughs; Sculpture, Lorado Taft; Industrial Arts, Huger Elliott; Landscape Design, Frederick Law Olmsted; City Planning, Edward H. Bennett; Music, Thomas Whitney Surette.

We think it quite safe to say that no more distinguished group of artists and writers have heretofore collaborated in so important a piece of work, and it is but faint praise to say that they have done so not because of the meagre remuneration but through a realization of the great value which it is hoped will accrue to this most earnest effort of the Institute's Committee. A portion of Mr. Elliott's chapter on the Industrial Arts appears in this issue of the JOURNAL and we hope that it will serve to stimulate the advance orders for the book now being solicited by the Committee. Its members have labored long and well. They have given prodigally of their time and have privately contributed the rather large fund which made the book possible. Certainly we are safe in saying that every member of the Institute will not only rejoice in the consummation of their enterprise but will accord the publication of the book every possible support. The advance subscription price is $3.50, and orders may be sent to C. C. Zantzinger, Chairman, 112 South Sixteenth Street, Philadelphia.

HENRY BACON is the third member of the American Institute of Architects to be awarded the Institute Gold Medal. In 1909 it was given to McKim, and in 1911 to Post. The first award was to Sir Aston Webb in 1906. Then, in 1913, to Jean Louis Pascal, and in 1921 to Victor Laloux, both of Paris. Following the usual course of events, the medal will be presented to Mr. Bacon at the next Convention of the Institute to be held in Washington in 1923. The event will be unique in the annals of the Institute, for one of its own members will be signaliy honored, perhaps at a function to be held in the Lincoln Memorial itself, but at any rate within sight and sound of the national monument designed by the architect who will receive the medal. An added significance will
derive from the occasion, for the city of Washington has long been the scene of many memorable efforts on the part of the Institute and its members,—efforts put forth toward the accomplishment of that vast civic design of which the Lincoln Memorial forms a part.

As Mr. Litchfield so well said in seconding the recommendation of the Board of Directors, when Mr. Bacon's name was put in nomination: "The American Institute of Architects cannot add to the glory which is Bacon's, but it will honor itself in honoring him. We may not add to his glory, but much to his happiness. Sweet, indeed, is the heart-felt praise of one's fellow architects; they know, as no one else can, the struggles, the disappointments, the infinite pains which alone produce success, but for this reason they can appreciate, as others cannot, the greatness of a great success. Let us, therefore, with love and with gratitude, make to Henry Bacon our highest award in token of our appreciation of his wonderful achievement."

**Something more** than a fortnight after the Convention, another great honor fell to another member of the Institute, when Mr. Thomas Hastings received from the King of England the Royal Gold Medal of the Royal Institute of British Architects. Only once before, we believe, has the medal been conferred upon an American, when it was given to McKim. By a coincidence quite unanticipated, Mr. Hastings receives the medal at the moment when England is praising, almost without stint, the exhibit of the work of American architects, to which frequent reference has been made in these columns. To say that American architecture has for the moment eclipsed all else would hardly be an exaggeration. Professor C. H. Reilly, of the School of Architecture, Liverpool University, in opening the American exhibit in Manchester recently, paid a most eloquent tribute not only to American architects but to the vision of those who paid for architecture as the first of all our achievements, so that altogether, Mr. Hastings could not have asked for a happier setting for an occasion so memorable.

**While we are** on the subject of medals, let it not be forgotten that the more modest awards of the Institute Medal for excellence of scholarship in the architectural schools often carries an exceeding joy to the recipient. Recently, in writing to the Institute in acknowledgment of the receipt of the medal, one of the students said:

"It may seem commonplace to say it, but the award of the Institute medal came to me as a great surprise. I had heard, during my course, of its existence, but never quite understood for what it was given, but least of all did I expect that I should be the fortunate recipient. It is an honor which I prize very highly indeed and I know that I may confess that to you without fear of any seeming lack of modesty. The Henry Adams book is one I have long wanted to read and I am deeply indebted to the Institute for this additional generosity. This encouragement is a great stimulus and I can only hope that the future may in some measure justify the award."

**Quite truthfully** it might be said, without doubt, that those who have to deal with the administrative side of the Institute's affairs find nothing more unpleasant than the cases which have to do with what is called unprofessional practice. It is really rather astonishing, when one stops to think about it, that men should be willing to serve, wholly without reward and often where their action is apt to leave a trace of bitterness behind, in attempting to adjudicate these differences of opinion as to what is fair in architectural practice.

Therefore, it is not hard to imagine with what pleasure the Executive Committee, at a recent meeting, had read to them a letter in which the writer, a member of the Institute, now retired from practice, took occasion to point out the following incident as indicating that perhaps we heard far too little of the other side of the story. Some years ago he had prepared plans for a certain type of building which then involved some wholly new problems. To these he had given great study and had found what was thought to be a solution. But the building was not built and the plans were laid aside.

Some years later, in fact quite recently, another architect was given the commission to design the building. He, too, had been puzzled by the problems presented, but a draughtsman, formerly in the employ of the architect who first studied the question, had offered a solution which had been accepted. Then it was that the present architect discovered about the previous plans and the first architect. He immediately wrote a letter explaining the incident and enclosed $500 for the ideas which he had innocently accepted, together with an apology. Doubtless the incident is not unique and attention is only called to it because it is pleasant to remind ourselves that there are architects still possessed of that high sense of personal honor which once distinguished not only the professions, but trade and commerce as well.

C. H. W.
CHAPTER III.

The 'Autobiography of An Idea

By LOUIS H. SULLIVAN

THE beauty of winter was fading as the thaws began their work, patches of bare ground appearing here and there, patches of deep snow remaining in the gullies, and remnants of drifts lying here and there. Each day the scene became more desolate; mud and slush were everywhere. But our youngster was not downhearted. Any kind of weather suited him, or rather he suited himself to any kind of weather, for he was adaptable by nature—which meant in this case abundant glowing health.

The bounds of spring may have been on winter's traces; he knew nothing about that. His immediate interests lay in the rivulets which emerged at the lower end of the gully drifts. He wished to know just where these rivulets started. So he shoveled off the snow and broke off the underlying decaying ice until the desired point of information was reached. Then he would go immediately to another drift, and operate on that to see if the result tallied with the first. This work completely absorbed him. It gave him new and exciting sensations, physical and mental.

Then, too, he would tramp over the sodden stubble of the fields, and plow along the muddy roads. He would hunt about eagerly to find by actual test which places were the soggiest, and just where the mud was deepest and stickiest. Then came rains upon rains. The snow vanished. The earth and all upon it was bare. The child took all this for granted.

He did not know, he did not even suspect, because of the city life he had led, that out of this commonplace bare earth—indeed now actually hidden within it as a mystery—was to arise a spectacle of entrancing beauty. The rains became showers, occasionally sparkling in the sunshine. The winds became mild breezes. There settled over all a calm, a peace, an atmospheric sense that caressed and encouraged. And thus came spring. The grass appeared as a delicate deepening influence of green. Did not our boy soon find the earliest pussy-willows, the first crocuses in the garden? Did he not note the delicate filigree appearing as a mist on tree and shrub, and the tiny wild plants peeping through the damp leaves of autumn in his favorite woods? Did he not really see things moving? Was not the filigree becoming denser and more colorful? Was not the grass actually growing, and the tiny plants rising higher? Was not the garden becoming a stirring thing like the rest? The outburst of bloom upon peach tree, cherry and plum, evoked an equal outburst of ecstasy and acclaim, an equal joy of living. Was not something moving, were not all things moving as in a parade, a pageant? Was not the sunshine warm and glowing? Had not the splendor come upon him as upon one unprepared? He heard the murmur of honey-bees, saw them burrowing into flowers, fussily seeking something and then away; and the deep droning of the bumble-bee, the chirping of many insects, the croaking of crows, as in a flock so black, they flew heavily by now and then; and the varied songs of many birds; riotously shaping, all, on one great tune with bees, insects, flowers and trees. Were not things moving? Was not something moving with great power? Was there to be no end to the sweet, clamorous joy of all living things, himself the center of all? Could he stand it any longer?

An interlude! Then of a sudden the apple orchards sang aloud! What made them thus burst forth? Was it that same power, silent amidst the clamor? Was it a something serene, sweet, loving, caressing that seemed to awaken, to persuade, to urge; yea, to lure on to frenzy, to utmost exaltation, himself and the world about him, the new, the marvelous world of springtime in the open—a world that became a part of this child that went forth every day, a world befitting him and destined to abide with him through all his days? Oh, how glorious were the orchards in full bloom! What mountains of blossoms! What wide-flung spread of enchanting splendor! The child became overstrung. Yet his heart found relief from suffocation in his running about, his loud shouts of glorification and of awe, his innumerable running-returns to the house to say breathlessly, "Come Grand-mama! Come See! Come See!" He wished to share his joy with all. These wonder-orchards were his, the fields, the woods, the birds were his; the sky, the sun, the clouds were his; they were all his friends, and to this beauteous world he gave himself without a thought—or without reserve. For how could he know that "All mankind being born in sin, are by nature under the wrath of God"? And how could he know that far from this scene of love, of pride and joy, men were slaughtering each other every day in tens, in hundreds and in thousands? True, at the appointed hour, he had run about the house shouting "Fort Donelson's taken!" or "Fort Donelson's taken!", and equally true he had made monitors out of a bit of lath and the bung of a flour barrel, and with greater difficulties a Merrimac. He had sailed them in a wash-tub filled with water. Further, he had listened to some talk about "Rebels" and "Yanks." Yet it was all vague, and distant beyond his hills. It was all
indistinct. He knew nothing about war—he does now. Spring passed slowly on, things were surely moving. The petals had fallen, and tiny round things appeared in their places. Trees were coming to full foliage, their branches swaying and leaves fluttering gracefully in the quickening breezes. Flowing, harrowing and seeding were over. He had been given a tiny patch in the main garden to be all his own, and with toy tools he worked the soil and planted flower seeds. He became impatient when certain nasturtium seeds failed to show above the surface, so he dug them up with his fingers, only to be astonished that they had really put forth roots. He pressed them back into the earth. To his sorrow that was the end of them. He had not yet heard of the French proverb which runs to the effect that 'Time will not consecrate that in which it has been ignored.' For a first attempt however he did pretty well. He learned little by little. He was now abundantly freckled, and in a measure toothless. His heavy thatch of black hair seemed to have known no brush. His hands were soiled, his clothes were soiled. Hatless, barefooted, his short pants rolled above his knees, and unkempt with activity, he was still a wonder-child, though effectively masked as a son of the soil. To the ordinary passer-by, he was a stout, stocky miniature ruffian, let loose upon a helpless world. The more discerning noted within the disorder two fine eyes, clear and bright, with mobile lids; eyes that varied strangely in accord with his varying moods; deep liquid hazel eyes, expressive of his every thought. He saw all things just as they were. The time had not arrived for him to penetrate the surface, even though he saw more than most, even though he saw at times what seemed a pellucid ghostly presence, a diaphanous mystery hovering in and about things living in the open; living in that very open where he liked to live. Exceedingly emotional—though unaware of it—the responses of his heart, the momentary fleeting trances, the sudden dreaming within a dream, perturbed him. He wished to know about these; he wished to know what it was that enthralled him time after time. And in this he failed also; he could not interpret—few can. For that which perturbed him lay far deeper, far higher than his thoughts—a living mystic presence within the same open that was his. Per contra, he was generally regarded as a practical little fellow who liked to work.

Generally speaking the family was without the pale. Father had some nondescript notions, without form, and void. He was attracted by the artistic, especially by the painter's art. He was well posted as to the names and works of contemporaries, and was a fairly good judge of landscape and still-life; also he admired a fine orchestra. Paradoxical though it may seem, but really consistent, he had tried church after church seeking what he wanted. What he wanted was not priest or preacher, but a thinker and orator. At last he found, in Theodore Parker, the satisfaction of his quest. Going alone, he attended regularly. From this it may be inferred that he leaned toward Unitarianism. Nothing of the sort—he leaned toward oratory. If Unitarianism went with it, well and good. It was of no moment. He praised Parker highly. Mother had a fixed idea that existence was continuous in a series of expanding becomings, life after life, in a spiral ascending and ever ascending until perfection should be reached in a bodiless state of bliss. This etheeral belief, obviously enough of Buddhist ancestry, opened to view the beauty and purity of her heart and mind. Moreover, be it said, she read with avidity Renan's Vie de Jesu, in which that whilom radical strips from the Son of God the raiment of divinity. Grandpa, it scarcely need be said, scoffed and grinned. He looked upon religion as a curious and amusing human weakness—as conclusive evidence of universal stupidity. Grandma alone was devout. Unostentatiously she believed in her God, in the sublime compassion of his Son, in the wondrous love he bore—a love freely given to the outcast—a love so great, so tender, so merciful, that for its sake he yielded up in agony his earthly being; the supreme sacrifice, to the end that all men might be blessed thereby; that, as his mortality passed, his supernal love might be revealed to men throughout all time; and that his divine being ascended through the firmament to join the Father in Glory on the throne of Heaven. These things she firmly believed. They were the atmosphere of her inner life, the incentive of her daily deeds. She furthermore believed quietly in doctrine—and it may be in dogmas. She held the scriptures of the Hebrews to be sacrosanct—as verily inspired of God. She did not seek to proselyte. She was satisfied to abide in her faith, undisturbed and undisturbing. Perhaps this is why her grandson loved her so. Innocent of creed, of doctrine and dogmas, he loved her because she was good, he loved her because she was true, he loved her because to his adoring eyes she was beautiful. Such was Grandmama.

Otherwise Grandmama was the responsible head of a family consisting of herself, her husband, her son and her grandson. She was methodical, orderly, knew the true meaning of thrift, entered every item promptly in the account books, struck the monthly balance, had a fine mind for figures, and withal she was prudently generous. Her main business was to give private lessons in French to certain brahmins and their offspring in that curious city called Boston. In her leisure moments, she knitted, knitted, knitted; gloves, mittens, scarves, socks, stockings, shawls; she knitted in silk, in wool, in cotton; she knitted with wooden needles and with steel needles; sometimes she used two needles, sometimes three. Frequently in night's still hours, she read in her Bible. Her precise hour of

240
THE AUTOBIOGRAPHY OF AN IDEA

retiring was always 1 A.M. She had her coffee served in bed, and arose precisely at 10 A.M. Grandpa's hours were the reverse. At or about 8 o'clock in the evening he would lay down his long-stemmed clay pipe, yawn, chirrup a bit, drag himself from his comfortable chair, kiss everyone goodnight and make his exit. His grandson, following soon after, passed the open door at the head of the stairs. He always looked in, and always saw grandpa stretched full length in bed, reading by the light of a student lamp some book on astronomy. The child did not intrude. He knew full well that however much Grandpa ridiculed so many things, he never poked fun at the solar system. In this domain, and the star-laden firmament, he lived his real life. This was his grand passion. All else was trivial. The vastness awed him; the brilliance inspired him; he kept close track of the movements of the planets. He read endlessly about the moon and the vast, fiery sun, and the earth's spiral path.

But it was in Autumn, when the full train of the Pleiades, the Hyades, Orion and Canis Major had cleared the horizon and stood forth in all their conjoined majestically-moving glory, that Grandpa went forth in the early hours of night to make vigils with the stars, to venerate, to adore this panoply of constellations, to be wholly lost within the splendor of the sky. Here was the man—all else was husk. What communion he held within the stillness of night, within his own stillest hour, no man shall know. It was his secret. Now and then he would, bit by bit, endeavor to impart a little of his knowledge. But he knew well enough his grandson was not of age. Still, the boy learned to recognize and name several of the constellations as well as some of the larger stars and planets. One evening they were walking together along the garden path. The crescent moon was smiling just above the tree-tops to the westward. They had been silent, thus far, when, Grandpa of a sudden asked, "Louis, have you ever seen the penumbra of the moon?" When the meaning of penumbra had been asked and answered, when the child had grasped the idea that it was the rest of the moon next to the crescent, he said, "Yes, Grandpa, I see it." "What is it like?" "It is curved at the edge and flat the rest of the way. It is pale blue, like a fog. It is beautiful."

"Ah!" exclaimed Grandpa, "how I envy your young eyes! I have never seen it. I have tried with opera glasses, but still could not see it. It must be wonderful—and I shall never see it. Ah, my dear boy, little do you know what treasures your sharp eyes bring to you. You see things that I cannot see and shall never see. When you are older you will know what I mean."

The child was startled. He did not know his grandpa was near-sighted. True, he had noticed that when Grandpa read in bed, he held the book very close to his eyes. He had noticed that some people wore spectacles, that his grandma wore spectacles in the evening. But Grandpa didn't wear spectacles at all. Why then could he not see the penumbra of the moon? It was all strange, very strange to him; it was anything but strange to Grandpa—it was a sorrow. To that eager mind, burdened with reluctant eyes, it was a calamity that he could not see and would never see the penumbra of the moon.

Grandmama on the other hand was not imaginative. In place of this divine power she had well-defined, solidly settled ideas concerning decorum, breeding, formal and informal social intercourse, and a certain consciousness that Mrs. Grundy resided as definitely in South Reading as elsewhere. Upon her arrival there, one of her first activities was to seek out a church, attendance upon which would at one and the same time insure to her unquestioned respectability, and, as nearly as possible, coincide with her individual views of doctrine. Indeed Grandmama was conservative of the social order of her day. She seemed oblivious to hypocrisy and cant. She was devoid of them. In this instance, she differed diametrically with her daughter Andrienne, who railed bitterly at that cloak of respectability which to her view camouflaged the sins of the world. Candor and sincerity were her ideals of character and conduct. There was but limited choice in the village and Grandmama soon fixed upon the Baptist Church as her election. She began regular attendance. The child had now reached the age at which she deemed it proper that he, also, should attend divine service. Thus another new world was to arise above the limited horizon of his experience.

It should be mentioned that among the treasures of barn and pasture, there was a certain and only horse named Billy. He was an object at the time technically known as a "family horse—safe for any lady to drive." As a matter of fact Billy was a sallow plug, who, as a finality, had resigned himself to a life of servitude, but not of service. Within the barn was housed what was known as a "family horse—safe for any lady to drive." It was really a family carriage, having an enclosed body somewhat like a modern automobile limousine. It was a neat solid affair, well built, well finished and upholstered, and with good lines. It was of the essence of respectability, even as Billy was of the lower classes. Billy's harness was all that could be desired, and on Sundays Billy was groomed to the extent of his limited adaptability to the exactions of high life. Billy, harness, and carryall, made a rather interesting combination, even though Billy, as fate would have it, was as fly in an ointment. The combination, however, is explainable. Grandmama was timid, or at least apprehensive, and very cautious. She wished to be sole guardian of her physical safety, to the extent, even, that she permitted no one but herself to drive. Her husband was too nearsighted and absent-minded,
her son too reckless, her grandson, too young. Hence her determination to take matters into her own hands. The idea of a glossy, dignified, high-stepper to match the aristocratic carryall could therefore not be entertained by her. It involved risk, possible disaster. So Billy was selected as a compromise between the desired tone and the much more desired security. That is, as a deletion of a certain, or uncertain percentage of village respectability, for South Reading was of ancient settlement. Grandma would not countenance a check-rein for Billy; she maintained that it was cruel. The normal center of Billy's head, in consequence, was nearer the earth he feebly loved than the heaven Grandma hoped to reach with Billy's material aid. There was a whip, in its socket, to be sure, but Grandma would not strike a dumb beast. When Grandma wished to start, or, on frequent occasions, to accelerate Billy's pace—if such it might be called—she waved the lines with both hands and chirped encouragement—never becoming aggressive—and satisfied that she had a horse “safe for any lady to drive.” But just here appearances became deceptive; for Billy, soon after his transfer in exchange for legal tender, revealed a defect in character. He was given to unlooked-for fits of insanity. From a turbid dodder, he would suddenly break into a runaway. This was alarming; yet there seemed a method in the madness. Like a clock, with mainspring breaking, and the works rattling fiercely toward a silence soon reached, even so were Billy's runaways. Their distance-limit seldom exceeded one hundred yards. So, after prudent observation of his antics, and with due allowance for the fact that he did not run away every time, Billy was reinstated as a family horse, safe for any lady to drive, provided she were familiar with his mannerisms. Such was now the case.

Of a Sunday morning, fair to look upon, in early summer, all prepared and ready, Billy and carryall connected into a material totality, the family set forth, following the dusty road to the village, without mishap. Upon arrival at the church, a white-painted wooden structure in imitation of stone, pretentious, and ugly,—as if indoctrinated with sin,—so much talked about within—Billy was hitched to the general railing and the family entered, after Louis had sufficiently patted Billy's nose. Climbing a wide flight of stairs to the second floor, all entered a large, dim, barren room, and reached the family pew. Louis immediately felt a pang of disappointment. There was nothing here to recall an echo of the spring song he had shared in the open. He thought there should be. Looking about at the congregation, he was astonished at the array of solemn faces: Why solemn? And the whispering silence? Why whispering? What was to follow? What was to happen? He enquired, and was hushed. He waited. The service began; he followed it eagerly to the end, noting every detail. He greatly admired the way the minister shouted, waved his arms terrifically, pounded the big Bible magnificently, and then, with voice scarcely exceeding a whisper, pointed at the congregation in dire warning of what would surely befall them if they did not do so and so or believe such and such. He roared of Hell so horribly that the boy shivered and quaked. Of Heaven he spoke with hysterical sweetness—a mush of syrupy words. He had painted the same word-pictures year after year; worked himself to the same high pitches and depths. His listeners, now thrilled, relaxed, expanded, held these sermons, these prayers, these hymns as precious; for the man looming in the pulpit was of their world. He gave pitch, point and skilled direction to those collective aspirations and fears, which otherwise would have lacked symmetry and power. The sermons invariably ended with a tirade against the Papists. This epilogue appealed to all as a most satisfying finale. After the closing words of benediction the congregation remained for a while outside the church, gathered in groups, the men swapping lies and horses, the women folks exchanging idiosyncrasies. All declared their satisfaction with the sermon. This was the routine. Then they went home. To the child, however, as a first violent experience, the total effect was one of confusion, perturbation, and perplexity. One particular point puzzled him most: Why did the minister, when he prayed, clasp his hands closely together and so continue to hold them? Why did he close his eyes? Why did he bow his head and at times turn his sightless face upward toward the ceiling? Why did he speak in whining tones? Why was he now so familiar with God, and then so groveling? Why did he not shout his prayers as he had shouted and roared through his sermon? Why did he not stand erect with flashing eyes, wave his arms, clinch his fists and pound the big Bible, and walk first this way and then that way, and otherwise conduct himself like a man? He seemed afraid of something. What could it be? What was there to be afraid of? And then this matter of the Papists. Why so bitter, why so violent, why so cruel as to wish these people, whoever they were, to be burned throughout all eternity in the flames of awful hell? And the minister had said he was sure they would be. The boy asked at home what Papists were. Grandma said they were Catholics. Grandpa said they were imbeciles. Then he asked what were Catholics, and Grandma said, simply, but with a touch of detail, that they were not Protestants. And what were Protestants? And Grandma said, as simply, but with a touch of detail, that they were not Catholics, to which Grandpa added that they, also, were imbeciles. But at the end of the next sermon the minister explained it all. He declared in his wrath that they, the Papists, were pagans,
THE INDUSTRIAL ARTS

heathen, infidels, idolators, worshippers of saints, low beasts, vile savages, ignorant, depraved, the very scum and slime of earth whom God in his mercy had segregated from the elect, in this world, in order that he might damn them totally to Hell in the next. The minister made it quite clear that no Papist could by any chance enter the Kingdom of Heaven, and equally clear that a good, strict Baptist could and surely would. As to other denominations, he felt dubious, indeed plainly doubtful, almost certain. Still, he said, grace was infinite, and the wisdom of the Father beyond the grasp of mortal man. On the other hand, he acknowledged himself a sinner, and frequently proclaimed, as with a sort of pride, that his entire congregation, individually and collectively, were miserable sinners; and they agreed. He told them, moreover, the wages of sin was death. He told them also, with unction, of the bloody source whence came the wages of purity in redemption. The child appealed to Grandpa, who said the minister was an idiot full of wind and nonsense. The child suffered. Nothing in this new world agreed with his own world. It was all upside down, all distorted, cruel and sugary. It was not like his beautiful springtime, it was not even like his beautiful winter. There was no laughter, no joy as he knew these things. He appealed to Grandma, but his questions were too persistently direct, too embarrassing to her placidity. She explained perfunctorily; he got no satisfaction there. He began to think perhaps Grandpa was right. After more sermons, and prayers, and denunciations, he began to feel distinctly that his world, his life, which he had frankly felt to be one, was being torn in two. Instinctively he revolted. He would not have the beauty of life torn from him and destroyed. These things he did not say; he felt them powerfully. A tragedy was approaching. He was about to lose what he loved, what he held precious in life; he was about to lose his own life as he knew or felt life. He rebelled, He lost confidence in the minister. He no longer believed what was said. More than that he soon disbelieved everything that was said. He was regaining his freedom. The services increasingly irritated him; he asked to be transferred to the Sunday School. He would at least see children there. The Old Testament amused and pleased him with its interesting stories. He could almost live them over. But when it came to the crucifixion he rebelled again in spirit, this time so ardently that it was thought prudent at home to release him from Sunday School and Church alike. His rumination now was to the effect that fortune might perhaps also separate him from the schoolhouse, standing white and bare on the hillside.

*(To be continued)*

The Industrial Arts*

By HUGER ELLIOTT

WHEN walking along—let us say—New York's Fifth Avenue, we see in the shop windows, gathered from every quarter of the globe, a multitude of objects which will, sooner or later, take their places in the homes of the people. Here are porcelains from China; brocades from Persia, Italy and France; carved and gilded candlesticks from Spanish churches; pottery from Delft or Copenhagen; an Elizabethan chest and a chair designed by Sheraton; Roman glass unearthed in Asia Minor; Egyptian jewelry; silver cunningly wrought by Spanish-American craftsmen; Japanese cloisonné; coral from the Mediterranean, brass bowls from Russia and rugs from the Near East. We see a profusion of articles beautiful in line and form and color and eloquent of the romance of trade and war and of the love of beauty in maker and purchaser. These things tell us not only of the satisfaction of physical needs—a bench upon which to sit or a bowl from which to eat—but also of the satisfying of the spiritual needs of man in the production of things of beauty. For men have always desired to make beautiful those things which they use; the degree of cultivation which the people of any time or locality have reached is reflected in such products.

The fact that we now see in our larger cities articles gathered from the most distant lands indicates the astonishing development, in the last few decades, of the facilities for transportation and opens a vast field of conjecture concerning the development of trade. We picture the many-oared boats of the Phoenicians coasting along the shores of the Mediterranean; caravans toiling across the Arabian desert; Portuguese galleons, bound for India, doubling the Cape of Good Hope; and the steam-driven vessels of modern commerce calling at every port on the seven seas. Ancient trade-routes have been traced by the archaeologist; prehistoric trade relations between vanished races proved by the discovery in graves or buried shrines of fragments of pottery and vessels of beaten gold. It is interesting to trace the routes by which the silks of China reached the palaces of the later Roman em-

*We here offer the readers of the JOURNAL a selection from "The Significance of the Fine Arts," shortly to be published by Marshall Jones Company of Boston, and to which a more extended reference appears on page 237 of this issue.—Editor.
perors; by which the glass of Venice made its way into English homes in the time of Elizabeth or a carpet of the Nearer East appeared in Madrid to play a part in a painting by Velasquez.

The influence of conquered peoples upon their conquerors and of the victors upon those who were subdued, can be followed almost as clearly in an examination of these works of minor fine arts as in the study of the resulting political changes.

The journeys of the famous "Horses of St. Mark's" present a well-known instance of the vicissitudes to which works of art are subjected. Erected in Constantinople, probably after the sack of some Greco-Roman city, they were, as spoils of the conquerors, carried to Venice in the thirteenth century to adorn the exterior of the Venetian Cathedral, there to influence the works of Donatello and Verrocchio. Again the fortunes of war swept them off, this time to Paris with the armies of Napoleon, only to be restored after his fall. Finally, to save them from possible damage by bombs dropped from aeroplanes, they were, in 1917, removed to Rome. They have but recently been replaced upon their ancient pedestals.

The conquest of Greece by the Romans furnished their architects and craftsmen with a wealth of ornamental motifs. These were later given a new development when the barbarians overthrew the power of Rome. To trace the changes wrought in the decorative application of the acanthus leaf is to study the history of Europe from the fifth century, B.C., to the invasion of Italy by Charles VIII and beyond. Many wares which fostered the development of European craftsmanship were imported from the East during the Crusades. The decorations in the "Egyptian taste" appeared in France after Napoleon's campaign in Egypt; did space permit, many other instances might be cited.

The spread of religions played its part in the development of the arts. Many ornamental motifs are found to have new meaning when one follows Buddhism into China, Christianity into the wide domains of the Roman Empire, Mohammedanism into India and Spain. Even the Reformation wrought clearly seen changes in the art of Northern Europe and affected that of the new world.

The development of Christian symbolism is a study in itself. Particularly interesting is the naive adoption of pagan forms to serve the needs of the new faith. The symbol of Bacchus becomes the vine of life; Orpheus reappears as Christ; even the tonsure was borrowed from Egypt, through Rome; Mahommet's strict interpretation of the Mosaic law concerning graven images, although not always observed, turned the creative impulse of his followers toward the development of geometric ornament, producing the rich and distinctive Moslem style. This, in its turn, had an influence upon the Renaissance ornament of Spain after the reconquest of that country by the Christians. The deeper one delves into the human side of the story the more enthralling the study becomes.

Although men have produced, to serve their daily needs, unnumbered articles, these may be grouped under a comparatively few heads. The general form of these objects is fixed by the need which they serve; the spoon, the bowl, the table have the same fundamental characteristics the world over. That which differentiates them is the artistic quality with which they are endowed. One great group of articles—clothing—varies not only in this artistic quality but has been conditioned by climate as well.

The interchange of ideas—and of decorative motifs—has been so fostered by trade, by wars and by religious movements that before long it may be a matter of surprise to learn that there are any places the products of which show local characteristics. Dress, alas, becoming deplorably uniform (and unbeautiful for men at least) whereas in earlier times national costume was worn as a matter of course. Says Portia of one of her suitors: "I think he bought his doublet in Italy, his round hose in France, his bonnet in Germany, and his behavior everywhere." Racial differentiation was once observable in every article made by man. An expert, without hesitation, declares this fifteenth century brocade to be Spanish, this other Italian. A Chinese bowl and one from Persia are easily distinguishable; a bit of Gothic carving from England is quite different from one executed in Italy at the same period. Local decorative characteristics furnish us with an inexhaustible source of delightful study; a mass of material illustrative of the progress of humanity. One wonders whether through the unifying power of the printed page and the photograph all national individuality is to disappear.

It is important that those who deal pictorially with past ages be familiar with local characteristics. No longer may Julius Caesar be played in a wig and dressing gown as was the custom in the eighteenth century. Yet recently a celebrated singer appeared in Aida swathed in velvet—a material first produced some four hundred years after the period of the opera. Another actress, playing the part of Cleopatra, reclined upon a rug which could not have been woven until a thousand years after the death of the enthralling queen. Illustrators are often to be found indulging in such anachronisms; and a famous writer, in a tale of the period of Henry VIII, mentions a full length mirror, whereas the largest mirror in England at that time was not more than twenty inches square.

While the needs of men have been more or less the same, the world over, the articles which serve these needs differed as the artistic impulse differed and as they were affected by natural resources. The presence
of kaolin in China made possible the production of porcelain. Silk was the exclusive product of that country until silk worms had been smuggled out of China. According to tradition this occurred in the sixth century A.D., when two Persian monks, sent for that purpose, escaped with the eggs hidden in sticks of bamboo. Rugs were, and are, made in the Orient, particularly in Asia Minor, because wool was there plentiful, earth and vegetable dyes easily procured and time of little value. That Venice, situated amidst sandy islets, should become a centre for the making of glass was as inevitable as that Pittsburgh should become the steel centre of the United States or Grand Rapids, near the great forests of the Northwest, the chief producer of furniture. For although our transportation facilities make it possible for us to manufacture what we wish, where we wish, the cost of moving raw material will more and more tend to develop industries in those places where the necessary supplies are plentiful.

The artistic impulse which differentiates the product of one country from those of another or of the same country at different epochs,—France, for instance, in the fourteenth and the eighteenth centuries, the "genius of the race" which causes these differences, is difficult to analyze. What is it that led the ancient Greeks to produce objects in every way unlike (save in being pleasing in form and color) those made by the contemporary Chinese and which caused the work of the Egyptian craftsmen to differ from that of their fellows in India?

Social and religious ideals—climate and natural resources; these played their part. But there is something else, something deeper and more subtle, which defies analysis; a special feeling for line or form or color; a racial way of visualizing beauty; a psychological bias the secret of which we may some day be able to solve. At least all were striving to achieve beauty. And as we broaden and refine our perceptions—freeing them from prejudice and from the control of passing fads and fashions—we may, through the study of these objects which men have made to serve their daily needs, deduce some of the laws of beauty and increase, for posterity, the number of those works of art which have power to delight and uplift the human spirit.

'Architects and City Planning'  
By THOMAS ADAMS

CHAPTER II.

Instruction to Architectural Students

As a rule the man who wishes to specialize in any direction should begin to do so when he is a student, if the opportunity is made available to him. Students of architecture who desire to take up city planning work or to become authorities on the architectural features of a city plan should have some teaching by city planning experts as part of their education.

This is being recognized in some architectural schools of high standing. The schools of Architecture and Landscape Architecture at Harvard are closely identified in respect of those phases of teaching which relate to civic design. The Massachusetts Institute of Technology has appointed lecturers on Town Planning and Landscape Architecture to give special courses to architectural students. Other universities are giving special courses in different forms to different groups.

Two Kinds of Students

It is found that the teaching has to comply with the requirements of two categories of students. There is the small group that is ambitious and hopeful to make city and town planning their special field. There is the larger group, the members of which intend to be architects pure and simple, and to whom as prospective artists in the design, composition and arrangement of buildings, some knowledge of city and town planning will be useful.

What then is the kind and form of teaching that should be given? Should it take the form of a regular curriculum comprising a consecutive series of lectures and studio hours, leading up to an examination that would give the student credit in obtaining his degree; or should it merely comprise a limited lecture course for the purpose of stimulating thought and research in a special field treated admittedly as a side issue? To these questions some answer has to be given and it is not easy to give it.

Science of City Planning in Infancy

As an art, City and Town Planning is old and has been much practised, but as a science it has never received much attention. The available knowledge of definite facts, and of the relation of these facts to one another, in connection with the methods and functions of city growth, is small; because there has been no continuous body of knowledge built up and accumulated in printed form by trained specialists in the subject. The formulation of principles and of rules affecting their application, has only received sporadic and superficial study by men engaged in the practice of city planning, who have had little opportunity for scientific investigation and elucidation. We are only at the beginning of the study of the facts and principles relating to the plan-
Limited Lecture Course

The teaching begins with a general review of the subject and a description of the known factors that have to be taken into consideration in preparing plans. The character, size, and geographical or administrative boundaries of areas are dealt with. Then follows a description of ancient and medieval plans, showing the early methods of the laying out of streets and open spaces, grouping public buildings and the underlying social conditions that influenced the making and execution of plans.

City and town planning since the Renaissance, including the planning of Washington, Edinburgh, and Paris during the latter part of the eighteenth and in the early part of the nineteenth centuries are next dealt with. Three lectures cover this ground in a general and somewhat superficial way, but it needs at least five lectures to give satisfactory treatment of historical phases alone. The student needs to supplement this first group of lectures with a considerable amount of reading.

The scope, objects, and examples of modern city and town planning are next dealt with in two lectures. Here we come in contact with matters that lie within our experience and observation. We begin to convey to the student some idea of the problems that confront us from day to day in modern cities, and of the methods of solving these problems. The greater interest that comes within common observation makes these lectures more popular, and it is open to question whether it is not better to open the series with the consideration of modern problems and lead up to historical phases later.

As stated in the previous article instruction has to be given in the law of city planning. The architect does not want to be an authority on municipal and city planning law and administration, and yet he should have sufficient knowledge of the scope and limitations of the law to enable him to co-operate with the lawyer and to plan with proper regard to the legal restrictions imposed upon him.

The relation between the architectural and engineering features of the plan, and between the contributions that have to be made to its preparation by the architect, the landscape architect and the engineer need explanation.

The importance of the land question in relation to the city plan is a point that must have special emphasis. Systems of sub-divisions; planning of general street systems, and relation of streets to traffic and buildings; planning of public utilities; grouping and reciprocal relations of important buildings; preservation of natural and structural beauty; park and housing developments including site planning, are considered from the architect's viewpoint.

Two lectures instead of the required four deal with industrial development and distribution; the relation between industries and homes; and the planning of the public services of transportation, power, water supply, sewerage; the consideration of community centers, growth of suburbs and satellite cities; connection between rural and urban problems; garden cities and suburbs and the financial advantages of encouraging decentralization.

Zoning has to be limited to one lecture although reference to the delimitation of areas for purposes of use, height and density is made in most of the lectures.

Finally, in two crowded lectures instead of four or five, matters of technique are dealt with on general lines, with a few concrete illustrations. There has to be described the methods of preparing and executing surveys and plans for regions, cities, towns, and separate sub-divisions or estates. The field is covered in a general way and the answers given by the students to the test paper at the end of the course will show that the knowledge gained is more than superficial and is of distinct advantage to the students in other architectural studies.

The desirability of giving such teaching cannot be questioned. What will be questioned by many teachers is whether there is room in the ordinary three to five year course for adding special lectures on city planning, or whether it is desirable to substitute city planning lectures for those on some subject regarded as of equal importance. That must be a matter to be decided by the Professor and College Faculty in each case.

Those who are not convinced that any extended course is desirable, because it would add too much to the work of the year; or alternatively that it would mean that something else, perhaps not more important but made so by usage and convention, had to be omitted, may find that a limited lecture course on city planning in the final year would be practicable and valuable. The scope and working of a more extended course will be dealt with in the next article.
Four Wood Cuts

J. J. Lankes
ROUEN—PALACE HENRI QUATRE
Drawn by Louis C. Rosenberg
Engraved by J. J. Lankes
THE KNOLL

J. J. Lankes
Five Photographs

Ben J. Lubschez

The "L" Station
From Bryant Park, New York

Ben J. Lubschez
Doyers Street, Chinatown, New York

Ben J. Lubschez
SIXTH AVENUE, NEW YORK

Ben J. Lubschez
American Academy in Rome

Final Competition for the Fellowship in Architecture—1922

It is supposed that a National Association, formed for fostering American music, proposes to erect in the country's capital, a national headquarters of such a character as to focus the public mind on the society's aims. Lovers of music have subscribed a sufficient sum to allow the architect a free hand in planning and character. As a site, the city has provided a small park, approximately level, 1,000 by 700 feet, and bounded by three streets and a wide avenue, the latter running the long way of the park and at the south. The building should face this avenue.

The building shall be in three distinct parts: (1) Part for Administration; (2) Part for the Association's Social and Reception Rooms; (3) A Concert Hall.

I. Part for Administration:

This part shall be in several stories and contain:

(a) A general working office for information, control, stenography, accounts, etc.
(b) A National Committee Room.
(c) An assembly room for delegates of local chapters at reunions.
(d) Living apartment for the National Chairman, large enough to permit of receptions.
(e) Servants' quarters for the whole building, janitor's quarters, postal sub-station, telegraph office.

II. Part for the Association's Social and Reception Rooms.

This part shall contain:

(a) A restaurant with necessary service and kitchen.
(b) A café.
(c) Reading rooms, lounge rooms.
(d) A great hall of magnificent proportions for reunions and receptions. There shall be several smaller reception rooms in connection with it. The great hall shall be easily reached from the club rooms and by the public.
(e) A large musical library and in connection with it a small museum for musical instruments and precious mementos.
(f) A hall for chamber music. This hall and the library will on certain days be open to the public.

III. The Concert Hall.

In direct communication with the Association's social rooms and also easily accessible to the public will be the concert hall. It shall seat about 2,000 people (allow 6½ sq. ft. per person) mostly on the floor, though there may be galleries, but no boxes. There will be a large stage capable of seating a symphony orchestra and chorus and in connection with it a musician's foyer, dressing rooms, etc. The whole property will be embellished to set off the building in the most imposing and dignified manner.

The winner of the competition in architecture was Henry G. Marceau, of New York City. The winners in painting and sculpture were respectively Alfred Floegel, New York City, and Lawrence F. Stevens, of Brighton, Mass.
To Other Continents, and Again Home

By IRVING K. POND

A Running Start

In this present venture into the far and fairly fascinating regions which lie between the covers of certain foreign Architectural periodicals (dropped upon my drafting table by the postman a short while since, in staggering bulk), I am not only carried to the far Far East, but I am swept into other vortices of language and expression equally far beyond my depths; and I am cast upon the alien shores of at least five other continents. Some of the shores do not seem altogether alien, however, for the breezes blowing off Old England, for instance, and off South Africa and New Zealand and Canada are laden with odors (not always perfumes) and vapors which might well have been extracted from our own professional and social ebullitions. And I am inclined to suspect that were I sufficiently at home in them the linguistic tides which flow from Scandinavia, from the Argentine, from other remote shores would not seem so vortitectual, so to speak; and that if only I could put out my feet and touch something solid I would find myself standing firmly on the same bottom which underlies "the sea of thoughts and things at home." For we are all alike in essence, as even a cursory peep between the covers of these foreign technical journals serves well to show.

It does not take a deeply penetrative glance into what is trying to express itself in these printed pages to confirm the impression that the professions are taking themselves very, very seriously; and especially does this seem true of the architectural profession. I am rather of the opinion that when one is sure of his status, entirely certain of the firmness of the ground underneath him, he can afford to "let himself go" a bit and not be forever feeling for the next firm foothold. I am led to this rather platitudinous deliverance by noting in the pages before me constant questionings by architects as to the status of the Architect: "What is an Architect?" "Has an Architect any place in the modern scheme of civilization?" "Is the Architect giving quid pro quo?" "Why is the engineer supplanting the Architect?" (the plain answer is that he is not, nor, in the nature of things, ever can. I shall revert to this later.) "Why is the Architect and his work misunderstood or, at least, underrated by society and the state?" (Perhaps society and the state are as much in the dark as to what they are misunderstanding, and so underrating, as is the Architect himself.) "How shall the Architect be trained?" "Will Registration and Unification restore the status of the Architect?" (Can the banding together of a great body of business men who have architecture for a trade establish the real status of a great art? and can the registration of these same practitioners contribute to that great end?) Please consider the bearing of these parenthetical remarks when perusing what comes a little later on.

In Foreign Languages

The Journal of the Institute of Japanese Architects for 25 March comes laden with formulæ for continuous
beams, etc., etc., indicating that even in the Farthest East architecture is based on construction and construction is science. One hardly can imagine the free, rhythmic Japanese binding his art with the bonds of structural formulæ, but when he took up with the ways of the Western world he swallowed the whole thing with all its limitations. A beautiful old Indo-Chinese tower, illustrated and described in the same issue, came up out of a seething volcano of feeling for both beautiful mass and structural function—a piece of real architecture.

Two studies in town planning come from some unknown French source. "Besançon—a study of the evolution of the town," and "Tours—its urban functions," are the subjects of these elaborate and interesting studies. The pages of L'Architecture (of 10 April) which are before me are devoted in greater part to a presentation, in text and illustrations from old prints, of the Fêtes of Versailles and their architectural settings in the years 1664 to 1674, interesting mainly to students of morals and manners, in which I suppose architects are included.

Back to English

The journals from the provinces will not detain us long, for generally they reflect what is going on architecturally in the Mother Country and in the United States to which they are bound by economic and spiritual ties. And they are watching us over there. An essay on "The Relation of Plan to Elevation" read by H. S. Goodhart-Rendel at the Liverpool School of Architecture and quoted in full in Construction, Toronto, Canada, April, 1922, reveals that. To quote the quote: "The architect who falsifies his plan to make it fit a preconceived elevation not only deprives his building of its rightful individuality, but is also on the road to becoming incapable of anything except repeating himself, or perhaps of repeating other people. This is the danger which threatens American architecture at the present time. The gay parterre of American architecture, which we all admire, is composed too much of cut flowers from Europe. Even the native majesty of her skyscrapers is marred, more often than not by the misunderstood architecture with which they are trimmed. A recent writer in a popular American magazine has attempted to justify the Gothic attire in which some of these skyscrapers masquerade by citing the coincidence of the lines of Mediaeval masonry design with those natural to a steel framed structure. 'Old forms serve our purpose,' he says, 'so why not use them?' Would he, I wonder, use the Portland vase as a salad bowl?" "Yet," proceeds our author, "these American reproductions are often beautiful: their insincerity does not spoil their appearance." I quote this last, by the way, that I may suggest that an attractively dressed lie has always appealed, for the moment at least, to the mind of the general public more potently and sympathetically than has a plain naked truth. In time, however, even an attractively dressed lie palls on the public morals, and so for that matter does a plain naked truth on public taste. I wonder if this has any bearing on
the present assumed Architecture vs. Engineering situation. I started to read in this same number of Construction an article entitled "The Eternal Triangle," but when I discovered, as I soon did, that the only dramatis persona involved were an artist's ideal, a client's whim, and a restricted building fund, I desisted—had had sufficient experience in that field myself.

The number of Architecture, the Journal of proceedings of the Institute of Architects of New South Wales, which now comes under my eye, contains little of more than local interest and nothing very vital to architectural practice or design.

In England

The Journal of the R. I. B. A. for 6 May contains a fully illustrated article on the Public Buildings of Cardiff. A view of Cathays Park, the Civic Center, from the air presents the topographical relationship between the buildings very clearly. But neither this nor any other view, nor does the descriptive matter, nor for that matter do the buildings themselves, explain the varied foreign influences which have made themselves felt on this Welsh soil. France, Spain, Germany, Italy, all in their less serious aspects, have offered accepted and seemingly acceptable contributions to the civic architecture of this provincial town. The two old churches shown and the old Castle are the only buildings which smack of the soil; the only buildings which could really warm the hearts of the natives. I wonder if here lies any suggestion of an answer to the questioned service of the architect to the community! In this number of the Journal an articleentitled "The Eternal Triangle," but when I discovered, as I soon did, that the only dramatis persona involved were an artist's ideal, a client's whim, and a restricted building fund, I desisted—had had sufficient experience in that field myself.

The aestheticsof pure construction are responsive chord in me and imbued me with a fellow feeling. It is the same quality in the work of Leonard Stokes—touched more deeply with a spirit of modernity—which attracted me to him. Congratulations to Mr. G. Gilbert Scott on his new honors and success to him in his work. I dislike the term "work" in connection with the activities of the architect. That phase of the business is what they are trying to unify. The play of the architect, his joy in the enterprise from the first period of conception to the finished creation is not a thing for legislation and cannot be conserved, though it may well be stifled by legislative enactments which regard architecture merely as a business.

Sandwiched in among the bulkier publications I find two numbers of the Journal of the Society of Architects. It is to the leading article in the May number that I direct your earnest attention. The article in question is by H. Bartle Cox, A. R. I. B. A., Membre corr. S. A. D. G., is entitled "A Plea for the Modern Outfit," and evidently was written in France. I wish I could quote it all, but it covers twelve pages of the Journal. The author is a devout believer in the efficacy of training and advocates "centralization," i.e., education by the government as in France. He believes in Federation rather than Unification; and, too, he believes in standardization. "Is not man," he asks, "a social animal, and do not architects copy and develop along traditional lines?" "Originality in design," he continues, "is too great a miracle to be believed in by professional men with any learning." But, let me say, not so great a miracle or so stupendous a fact as to be unwelcome when it does appear as it has in ages past.

The present age," says our author, "is a transitional period of great complexity in which the engineer alone is sure of his standard, provided he does not attempt ornamentation, popularly termed architectural treatment . . . The aesthetics of pure construction are more important than its dressing, but long before the whole can be brought to perfection the modern standard must be found." And then: "The petty-minded infatuation for ornament, the hysterical appreciation for local peculiarities (more novel to the visitor than to the resident), the pretentious ancestral worship of the half-learned archaeologist, the sophistication of most popular writers, the wide-spread insincerity of many so-called artists (poseurs), the bluff of modern art dealers (made easy by dilettantism), the belief that art is a gift outside and beyond all useful and practical considerations, are some of the reasons why the meaning of the word Architecture has been so distorted, why the average person takes the trappings of a building to indicate its style, and why he dare not admit the beauty of engineering, while, at the bottom of his heart, he enjoys his motor car far more than his Queen Anne billiard room, and admires the nation's marine more than its museums. It behooves architects to take this into consideration if they want to improve the narrowness of their modern position.

"Parliament," says our author, "if asked to grant Registration might demur on the following questions:

1. What is an architect, what are his functions, and from what does he claim to be able to protect the public?
2. Do architects know more about building than engineers?
3. Is art, as understood by modern practising architects, an undisputed boon to society?

And Mr. Cox sums up his thesis by urging on the profession the necessity for completing the organization "by founding:
1. A single Centralised National School, with ramifications in the provinces;
2. A System of Co-operation with Industry, for the realisation of national problems; and
3. A Federation of All Architectural Societies, to present petitions to Authorities.

All this by our author. And now let me dogmatize a little and in my own feeble way analyze the functions of both engineer and architect and determine, if may be, whether the one deserves all the encomiums which he himself among others is now showering upon him and whether the other is serving society as his art demands.

And, too, let us make it perfectly clear at the outset that the only branch of engineering which pretends to usurp architectural functions is the structural branch in which may be included the business engineer or contracting builder. The automobile engineer, the mechanical engineer, the naval engineer, affect architecture only that the only branch of engineering which pretends to usurp architectural functions is the structural branch of both engineer and architect and determine, if may be, whether the one deserves all the encomiums which he himself among others is now showering upon him and whether the other is serving society as his art demands.

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The Journal of the American Institute of Architects

Unification

The Journal of the Society of Architects, presenting the point of view of a large number of British Architects, has published a statement on Unification in the architectural profession as issued by the Committee on Unification and Registration. This statement seems to have the approval of Mr. Paul Waterhouse, President of the Royal Institute of British Architects, Mr. Edwin J. Sadgrove, President of the Society of Architects and Mr. Arthur Keen, Hon. Secretary, R. I. B. A., the above named serving in the order mentioned as Chairman, Vice-Chairman and Hon. Secretary of the Committee.

The question of registration being deeply involved with that of Unification, the British point of view must be of interest to every American architect. The British idea seems to be Unification first and registration as a consequence. The American idea, registration first and as much Unification afterward as may be deemed advisable for the welfare of the public and advancement of the profession. The Committee report says that "Unification means a grouping with an organic whole within the Royal Institute of British Architects"; the Society of Architects is to be eliminated as far as concerns its name if the report is adopted; some other societies are allowed to retain their name and entity. The unattached architects, it is presumed will gladly accept an offer of membership in the R. I. B. A. The grade of membership for each society and the individuals is to be determined at a later date.

The advocates of Unification "regard Unification as a preliminary step without which Registration is a mere
vision and as a stage in the evolution of Registration which will add incalculable value and force to Registration when finally the latter is obtained. The report then sets forth the advantages to be obtained by a large single association acting under the Code of the Royal Institute of British Architects, the advantages to the individual, to the profession and to the R. I. B. A.—the concentration of all authority in the Royal Institute of British Architects and the saving of all Charter rights of that organization without disturbance from Parliament.

Summed up, the proposition seems to be compulsory membership in a great guild of architects with grades established by the guild itself and every member registered as an architect. A minority report by Mr. Alfred W. S. Cross, Vice-President, R. I. B. A.; Mr. Sydney Perks, Mr. W. E. Riley, Mr. Digby Solomon, takes issue against the scheme on the ground that it would lead to a weakening of the standing of the R. I. B. A. and then demands that the Institute proceed forthwith to promote a Bill for the Statutory Registration of Architects.

The discussion of the question of Unification of British architects is not our concern beyond the light that it may furnish to the American architect. We consider that any test leading to the entrance to our profession in our Country must necessarily demonstrate the applicant's ability to meet certain minimum educational qualifications; a good preliminary education, varying in definition in the many states, but actually amounting in values to the same proof of ability to understand the major subjects, i.e., History, Language, and Mathematics involved in the study of architecture. The applicant being thus prepared is subject to tests in the History of Architecture, Architectural Design, Plan, Architectural Engineering and Architectural Practice. Passing these minimum tests entitles the applicant to serve as an architect.

The idea of a maximum test is set aside as being impossible since no one is deemed competent to apply it.

The American Institute of Architects accepts to its membership those who have advanced to a satisfactory point beyond the minimum established by law. An Institute membership covering the entire profession might be an important political agency for the profession if harmony of action could be assured, but it would at best be one new “bloc” to inject discord in the body politic. We believe that it may be assumed that the power for good is greater in a body composed of persons representative in their professions of the highest degree of attainment than in a diluted organization. Therefore we do not open the door of our national organization to those unable to qualify beyond the minimum standards established by statute.

The ideal of a guild, however, persists and cannot be carelessly set aside, but the guild means allocation to class in a profession. Business disadvantage prohibits such classification in the mind of the American, but as a rule he seeks to qualify for membership in a society in which membership is presumptive evidence of competency to a degree beyond the provisions of the law. For geographical convenience the Institute has Chapters. Entrance to the Institute by way of the Chapter which represents the local opinion of the candidate's competency held by his competitors is an approach which generally speaking assures Institute standing. Statutory regulation of minimum qualifications is the life of our system. Progress to Institute membership by advancement because of conscientious work is the source of whatever power the Institute may possess. Failure to apply for Institute membership is not deemed to be a reflection on the ability of an architect.

Registration first and Institute recognition for advanced knowledge second is a workable program. It does follow the path of the guild to a degree, being a compromise between the guild and the more or less concentrated control of an entire profession. No architect here wishes Unification at the cost of free will. No one seems to object seriously to reasonable proof of qualification, but to submit to organization rule, as a matter of law, does not appeal to the American. He has his local societies and state organizations; he may choose to be a member of one or all organizations of architects; but to enter any one he must be lawfully in practice as an architect and have given proof of attainment in excess of that required by statute.

Most American architects believe that it is an honor, outside of the law, to be a member of the American Institute of Architects, the Royal Institute of British Architects or the Society of Architects. It is probably an opinion formed by observation of the works of the distinguished personnel of these great societies. Many of us would feel sorry to see these organizations pass from their present status and become merely a group under statute law. The whole question involves the rights of a minority; we have had this principle continually before us since the foundation of our government.

To box up all architects in a single crate and compel them to agree to a majority rule when ethics are not involved is an abandonment of liberty. Whenever a majority rules without protection to the minority, government shows signs of failure. Whenever democracy is mentioned it is always accompanied with restrictive laws making the principle a farce.

It seems that the American ideal, as far as the architect is concerned, is good, inasmuch as it preserves the right of the minority to join or stay out of a regulatory body. As long as the members of this minority behave themselves in their independence no one can justly criticize. If they do not so behave it is a matter of the application of punishment provided for under the general criminal code.

WM. P. BANNISTER.

From Our Book Shelf

Architecture and the Public

The profession of architecture seldom is the stepping stone to a literary career. When it is we may well look for admirable results in the presentation of the Architect's point of view and his professional background. We certainly do not look in vain for these results while reading Mr. Cornford's brief history of the Royal Institute of British Architects.¹

It describes the development of this great professional body from the days of its first charter through its reorganization in the reign of Victoria, to the present day; and the growth of its power and the increased scope of its activities symbolize the developments of the profession and its modern complexities. If for no other reason, this admirably written book could claim its right to a place on the shelves of the American as well as the British Architect.

In addition to its purely historical interest, however, it will claim the attention of architects on account of the forcible way in which it pleads for a greater publicity of the essential facts of the building industry and of the personalities that contribute to its progress. This could hardly be stated more simply, directly, and convincingly than in the brief foreword by William J. Locke. He, like the author, served his apprenticeship in the profession, a fact of which probably few of his many readers are aware. For years he was indeed the Secretary of the Royal Institute, and is therefore fully cognizant of his facts.

The reticence of the Architect in matters of publicity is fostered by his code of professional ethics, a code which, by its ban on advertising, encourages the average practitioner to humble obscurity while permitting the gifted exception to gain legitimately the full fruits of his instinct for a place in the public eye. Mr. Locke's plea for a more general knowledge by the public of the great architects of their time, and his assertion that the daily activities in the lecture-room of the Fogg Art Museum are as good as another with regard to what the conditions might be in any proposed auditorium. But by great good fortune in 1895 the Corporation of Harvard University had called upon Professor Wallace C. Sabine to propose changes for remedying the acoustical difficulties in the lecture-room of the Fogg Art Museum. About two years were spent in experimenting on this room, and the questions arising in the consideration of its plans forced a continuance of the general investigation.

The task was enormous. Professor Sabine was obliged not only to formulate de novo the entire mathematical theory of reverberation and its calculation, but also to determine the sound-absorbing capacity (or coefficient) of every important architectural and decorative material. Moreover the experiments required extreme delicacy and accuracy. "In fact, early in the investigation, two months' work—over three thousand observations—had to be discarded because of failure to record the kind of clothing worn by the observer." Nevertheless he persevered, and in 1900 he announced that he had solved the problem of first approximation for the pitch of treble C and that he had been able to apply the results of his investigations to the design of the new Boston Music Hall.

And he was not content to stop here. It was one thing to be able to calculate in advance the conditions in a proposed auditorium—it was quite another to be able to control the conditions. In certain cases, such as theatres, court-rooms and the music hall above-mentioned, the length of the reverberation could be conditioned upon the amount of heavy carpeting, wall hang-
WHAT DO WE PAY FOR IN ART?

I suppose that one could scarcely read the novels of Charles Marriott without suspecting that he had predictions toward other forms of expression than that which finds its outlet with the pen. Readers of the JOURNAL will remember an editorial in our columns, some years back, written after the writer had finished "The Catfish," one of Mr. Marriott's novels which has a good deal to do with the question of making good wares and selling them—and that question is vexing us no less today than then. "The Grave Impertinence," the last of Mr. Marriott's novels, carries on along the same line, although with a divergence into the field of an employer who had a half vision of a ready-made sort of community to be evolved entirely out of his own consciousness and who was able to learn better ere he had committed so gross a folly. But running through these two books, and in a somewhat different manner through others of Mr. Marriott's novels, there weaves the gentle philosophy of the personality of the craftsman, his right to his birthright, his subjection, too often, to forces which have nothing to do with the making and selling of sound wares and things of beauty but which have very much to do with the business of carrying on production at a profit.

Mr. Marriott does not propose to change things. He offers no political or economic programme. Like Mr. Jacks, whose "Philosophers in Trouble" and whose "Mad Shepherds" are filled with the clearest insight, Mr. Marriott gently persists in pointing out, in labeling the shoddy not with curses and imprecations but as the output of the human passion for acquiring things, the one passion, of course, which humans are most unwilling to recognize, at least in themselves. But, all of this is perhaps beside the point and is merely by way of setting a background, so to speak, or perhaps of paying a tribute to a writer whom I so highly esteem. The point is, after all, that Mr. Marriott has lately written the following in the London Nation, from which I borrow it, in toto, so replete is it with wisdom and with that other kind of quality which we call spiritual, for we still speak of art and of spirit as though they were quite different things, which, to my mind, they are not. This is what Mr. Marriott has to say:

"Lately there has been a great deal of discussion about the teaching of art, on the one hand, and the economics of art, on the other. Without going so far as to say that art can neither be taught nor bought and sold, isn't it likely that we complicate the matter by failing to distinguish truly between art and its application? At any rate, as regards the teaching of art, there is a great deal to be said for the method of Mr. Wackford Squeers: 'W-i-n-d, winder—go and clean it!', and as regards the payment of the artist, for the provision of an adequate tuppence for the job.

"But the confusion indicated above, though it affects injuriously both the teaching of art and its payment, goes far deeper in its evil consequences. It proceeds, really, from putting the distinction between art and applied art on the wrong grounds. Most people are agreed that the applied arts are best learnt in the workshop, under workshop conditions; but many are inclined to draw the line at what are called the 'fine arts.' What the term 'fine arts' meant originally it is difficult to say; but, from the history of art, it is reasonable to suppose that it was not intended to convey more than a convenient distinction, a difference of degree rather than of kind. A dictionary quotation from Ruskin, which I am unable to trace to its context, says: 'Then Fine Art is that in which the hand, the head, and the heart of man go together.' For practical purposes, that, with its full implications, is good enough. We may readily agree that the hand, head and heart of man are more exquisitely concerned, or in different proportions, in painting a picture than in painting a door; but we prejudice art, and, what is worse, limit humanity, in excluding any of the three factors from the latter exercise. Not only that,
but, for thinking purposes—with practical reflections upon both the teaching and the payment of art—we create, as between the door and the picture, a nightmare problem as to where in the scale of purpose fine art really begins.

"Would it not be simpler to say that, in practice, all art is applied art, and to organize our teaching and our payment accordingly? Putting aside all questions of ultimate application, as to whether the picture is to have a distant and temporary or close and permanent relation to architecture; to go in a frame or be painted on the wall; the very fact of a picture is an application of painting. This is very far from being a verbal nicety; it has, by defect, serious practical consequences—as one may see in any exhibition. Between the representation of Nature, or the expression of the artist, as general aims, and picture-making, lies a great though commonly neglected part of artistic education. Without considerable practical experience not only of painting, but of the teaching of painting, he would be a rash man who said how long, if at all, this part of artistic education should be deferred; but from the practice of great artists in the past, as well as from occasional instances of the present day, the evidence agrees with the assumption that it may with advantage be pursued from the very beginning. In short, it seems overwhelmingly probable that the ideal training for the painter of pictures, as for the maker of chairs or cabinets, is under workshop conditions; having regard not only to the general practice of drawing and painting, but to their particular application to definite purposes, and even to the requirements of the market, from the first handling of the brush or pencil.

"If this be the ideal training, as it seems to be, what we have to consider is how far it is practicable in present conditions. Once agree that a school of art, any school of art, is only second-best, and we are much nearer to seeing the sort of school we ought to have. At any rate, as regards what are already known as applied arts, there seems to be no question that the best results are got when the school approaches workshop conditions by being associated with some local industry; and the pamphlet issued by the Royal Academy in connection with its next winter exhibition, not to speak of such actual results as the International Theatre Exhibition at South Kensington, and the fact which can hardly be questioned that some of the best pictorial art of the moment is to be seen in posters, indicates a growing opinion that what, on wrong grounds, have been distinguished as the fine arts will respond to the same kind of treatment.

"The true distinction between art and applied art remains; the point is that it is valid all down the scale. It is not as between one kind of painting and another, but as between aesthetic theory and any kind of painting; or, in common language, between 'art' and 'craft.' The former is, so to speak, a University subject, the latter an affair of workshop conditions and market requirements. This distinction at once meets the objection that to take what are called the fine arts into the workshop and the market is to materialize or commercialize art. On the contrary, it is to spiritualize labor. Once agree that the same aesthetic considerations which apply to painting a picture apply, though in a different degree, to painting a door, and you have emancipated labor without any prejudice to the highest meaning of art. Putting on one side the question of taste in color, a good surface of paint on a door is as truly an emotional, an aesthetic, consideration as 'significant form'; indeed, it is significant form. The true commercialization of art is to make aesthetics the basis of payment—to buy and sell doves. Artistic values are as inestimable in terms of cash as love or moral goodness; but the laborer is worthy of his hire. The illustration has been used before, but it may serve again, that the case of the artist is analogous to that of the wife; she may and should be paid in her capacities of housekeeper and child-bearer, but she cannot without diaphragm be paid in her capacity of mistress. Stevenson's famous comparison was nothing more than a comment upon the unfortunate position of the artist in our civilization; paid for what he should give instead of for his labor; and in the Middle Ages it would have had no meaning.

"How far it is possible to pay the different kinds and degrees of artists on a craft basis is, of course, a difficult question; but, surely the first step is to absorb, or reabsorb, the artist into the craftsman category by organizing his education to that end. What stands in the way is, at bottom, the 'fine art' superstition as meaning a difference in kind as well as in degree. How it works out in practice may be seen when the good average painter of pictures tries to decorate a room. As a rule, his 'aesthetics,' having been, so to speak, secluded, go to pieces; and he fails not only in the mechanical task of handling large surfaces of paint but in the elements of design, form, and color as applied to that purpose. His knowledge of them has been bolstered up with reference to some theory of Nature; the props removed, he finds himself without principles. On the other hand, when the good house-painter paints pictures as a hobby, he gets into them, as a rule, none of the qualities apparent in his daily work. His instinct and training as a craftsman are defeated by the superstition of 'fine art.' He has not grasped the emancipating truth that 'art' is not the form but the spirit in which a thing is done. The form can be taught and paid for, but the spirit is common heritage, capable of guidance, maybe, but irrespective of the form and beyond price."

C. H. W.

The Producers Section of the Structural Service Committee

The 55th Annual Convention of the American Institute of Architects, on recommendations by the Second Joint Conference on Better Advertising to Architects, adopted unanimously a resolution authorizing the Committee on Structural Service to create a Producers Section of the Committee as a sustaining body to collaborate with the Committee in advising and counseling with manufacturers, who may so desire, on the character of their advertising as to size, form and content in furthering the use, by Architects and Producers, of the Standard Construction Classification adopted by the American Institute of Architects; and in promoting sincerity and reliability of statement in advertising.
INSTITUTE AND CHAPTER ACTIVITIES

Since the Convention the work of organizing the Producers Section has been pushed energetically forward. On 29 June there was a joint organization meeting followed by two meetings of an Executive Committee. The results of the three meetings are recorded in the following resolutions:

WHEREAS, the creation of the Producers Section of the Structural Service Committee authorized by the 55th Annual Convention of the A. I. A., should be regarded as the beginning only of a program, as yet but partly defined, for cooperation between the producers and architects to promote growing mutual respect and confidence, better joint service to the public and better building; and

WHEREAS, in initiating this program it would be unwise, in the opinion of the Committee, to hamper the work or so restrict activities as to prevent the undertaking of such enterprises as may be considered desirable and as may be sanctioned by the A. I. A. by the adoption of any rigid scheme of organization under a Constitution and By-laws; be it

RESOLVED, that the Producers Section be merely an informal body of individuals, representatives of corporations and representatives of associations working with the Structural Service Committee by means of such liaison committees and agencies as may be needed; and be it

RESOLVED, that to accomplish this purpose the Producers Section of the Structural Service Committee be created and related to the Committee in accordance with the following provisions:

a. That the manufacturers of building materials and appliances and associations of manufacturers be eligible to membership in the Producers Section.
b. That Producer Section membership dues be $200 a year, $100 to be paid upon acceptance of membership and $100 on call if and when needed.
c. That the Chairman of the Structural Service Committee, with the consent of his Committee, appoint an Executive Committee of the Producers Section which shall meet with the Executive Committee of the Structural Service Committee.
d. That the Chairman of the Structural Service Committee be Chairman ex-officio of the Producers Section Executive Committee.
e. That in consultation with the Executive Committee of the Producers Section the Structural Service Committee shall prepare budgets, make special appropriations for special work, select paid employees, fix their salaries and take such other action as may be necessary to the performance of the proposed service.
f. That the Structural Service Committee appoint a Treasurer, satisfactory to the Board of Directors of the A. I. A., to be custodian of the Producers Section fund and to make disbursements therefrom on vouchers signed by the Chairman of the Structural Service Committee and in accordance with budgets adopted or special appropriations made.
g. That the service of counsel and advice on advertising by the Structural Service Committee be rendered to members of the Producers Section at cost less indirect charges, estimated at 25 per cent of the gross cost and covered by Producers Section membership dues, and that the service to non-members be rendered at cost.
h. That the dues for membership in the Producers Section be credited to the member on account of any charges against him for service rendered by the Committee in any fiscal year.
i. That in rendering service the Committee on Structural Service shall give precedence to members of the Producers Section.
j. That no member of an Association of manufacturers which Association is represented by a membership in the Producers Section shall have the right to secure service from the Structural Service Committee through the Association and that service to Associations of manufacturers shall relate only to Association advertising activities.
k. That the Structural Service Committee shall render no service to a publication in connection with manufacturers advertising to be carried in the publication; but that this shall not be construed as preventing the Committee from advising and counseling with a publication on the general character of the publication, nor shall it restrict or limit the activities of the Committee in the performance of its Institute functions.
l. That as a condition precedent to the rendering of service by the Structural Service Committee, the producer, firm, corporation or association or the agent of any of them requesting the service shall agree that no statement will be made in connection with the advertising in question to the effect that it has been submitted to the Committee for criticism and suggestion or that it accords with the Committee's views or recommendations.
m. That the Structural Service Committee issue invitations to manufacturers, and associations of manufacturers to become members of the Producers Section and that the Committee on Structural Service take the necessary steps to place itself in readiness to render the proposed service on and after August first.
n. That as many, but no more than four meetings of the whole Structural Service Committee and the members of the Producers Section be held each year as available funds will permit.

Institute and Chapter Activities

THE IOWA CHAPTER has issued in printed form the Proceedings of its nineteenth annual meeting. Papers delivered at the meeting are included and copies may be obtained from the Secretary of the Chapter, Mr. Eugene H. Taylor, 222 South Third street, Cedar Rapids, Iowa.

THE PROCEEDINGS: These should reach Institute members not later than August 15. Efforts are being made to mail the book within sixty days of the Convention. The Institute issues a complete record of its Convention transactions, at considerable expense, and members will do well to spend an evening in reading the discussions, and the decisions.

SCHOOL MEDALS: Each year the Institute awards a silver and gold medal to students in the recognized Architectural Schools who excel in Architecture during the four year course. The medals are appropriately engraved and are presented at commencement. Each is accompanied with a copy of Mont St. Michel and Chartres. The winner invariably writes of his appreciation, and usually concludes the letter with a paragraph expressing the hope that some day he may be worthy of Institute membership.

ABOUT to incorporate, the Small House Service Bureau, Atlantic Division, with headquarters in New York City, announces the following list of shareholders, the first five of which are Directors: Charles Butler, John Van Pelt,
was introduced in the Senate by Mr. Calder and referred to the District Commissioners for report. The Comcast, D. C. Chapter prepared a draft of bill for the following the Knickerbocker Theatre tragedy the Washington, D. C. Chapter prepared a draft of bill for the registration of Architects in the District of Columbia. It was introduced in the Senate by Mr. Calder and referred to the District Commissioners for report. The Commissioners were under the impression that a joint law for Architects and Engineers would be more economical in administration and a hearing was held at which the architects and engineers were present. There was extended discussion and the point of view of the architects was ably presented by Mr. Leisenring, Chairman of the local registration committee. A day or two after the hearing the Commissioners recommended to the Senate that the separate law, proposed by the architects, be adopted. It is based on the model form of the Institute. In view of the severe scrutiny which the bill withstood it might be valuable to other Chapters. Copies of it, and the accompanying report, are available upon request.

The Annuary for 1922-23 is now in type. It cannot be printed until the personnels of the new Standing and Special Committees have been appointed and acceptances received. It is hoped to distribute the book with the Proceedings—if not sooner.

News Notes

John Hutchins Cad has removed his office to 621 Grosvenor Building, Providence, R. I.

Bernhardt E. Muller has removed his office to 25 Fifth Avenue, New York City.

Stalybridge, England, is at odds with the Ministry of Health. The town has an ordinance requiring ceiling heights of eight feet six inches. The Ministry of Health says that no housing ceiling shall be more than eight feet high. The standardists are much perplexed. They are even divided, which is awful. Some of them have the temerity to hope the town will win, which is not unlikely. But what will the standard then be?

Manchester, England, in October next, will hold a town planning exhibit devoted to the efficient development of an area surrounding Manchester and covering some seven hundred square miles. More than a hundred local authorities will be represented as well as several county councils. The history of the growth of the area will be presented showing what one hundred years of unplanned, undirected, and unrelated activities have produced in congestion, absence of through lines of communication, and general disorder. The event is likely to prove memorable in more ways than one for a multitude of people will, for the first time in their lives, gain some sort of a comprehensive idea of the interrelationship of the corporate bodies of which they are a part and to which they too often yield a blind devotion rather than an intelligent criticism based upon the larger interest. For, in the last analysis, it is the larger interest which finally dominates all the smaller ones, just as is the case in a municipality itself, where lack of planning works an injury on every inhabitant. Our American cities might well begin to sow the seeds of the regional idea in planning by assembling such exhibits as that proposed for Manchester.

Sir Christopher Wren died on 23 February, 1823, and in connection with the bi-centenary which will occur next year, the R. I. B. A. is inviting the appointment of
LETTERS TO THE EDITOR

July 19, 1922.

To the Editor:

Sir: Do many of the architects of the United States, even some who are members of the A. I. A., look upon manufacturers' advertising departments as "Hand-Out" organizations, or as eleemosynary departments?

One would think so, judging from the frequency with which advertising manufacturers are pestered by cries of "Backsheesh!" either directly by architects, or through their recommendation.

Perhaps the fact that many architects so readily accede to requests by contractors to write to manufacturers urging them to advertise in this or that book or booklet or catalog is evidence of their good nature. But may I suggest that whenever such requests are made they should think of themselves as professional men allowing themselves to be used as tools by concerns that have so little regard for ethics and honesty as to try to use them (the architects) practically for blackmailing.

The Association of Collegiate Schools of Architecture held its annual meeting in Chicago on 5 and 6 June, just before the Institute Convention. Most of the member schools were represented, notwithstanding that the time of the meeting conflicted with the Commencement or examination periods of many of the universities. The discussion this year centered about the larger educational questions and policies. Most of the Association schools are considering five-year courses while a few have already developed them. The schools of the Association are agreed that the longer course is necessary to give the architectural student a broader foundation, and favor the longer course because of the possibility of adding cultural rather than technical studies. The Committee on the Five-Year Course, Professor Ferrand, Chairman, will make a further report on this subject at the next convention.

The Association went on record as heartily endorsing the proposed Institute graduate scholarships, favoring however on the part of the scholars freedom of choice of school as against making all attend a single school.

The requirements for admission to the Association will also be revised during the coming year by a committee, of which Professor Laird is chairman.

The Department of Architecture of the Armour Institute of Technology, Chicago, was admitted to membership, the members of the Association making a visit to the exhibition of the school at the Art Institute.

Professors Boring and Laird were elected directors, the remaining officers being as follows:

President: Emil Lorch; Vice-President: William Emerson; Secretary-Treasurer: Clarence A. Martin.

Most of the Association delegates remained to attend the Institute Convention and shared the fine hospitality and splendid arrangements made by the Chicago architects.

In recognition of his work in the field of architecture, Professor Harry Sternfeld, Acting Head of the Department of Architecture, at Carnegie Institute of Technology, Pittsburgh, recently received a medal and diploma awarded by the Pan-American Congress of Architects, which met in Montevideo, Uruguay. As holder of the Paris Prize in Architecture given by the Society of Beaux-Arts Architects, he studied in Europe for two years, at the Ecole des Beaux-Arts in Paris and at the American Academy at Rome.

Letters to the Editor
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

There is another form of solicitation of advertising by architects that is also akin to blackmailing: Before me are soliciting letters written by the Chicago Architectural Exhibition, The Architectural League of New York, the Philadelphia Chapter of the American Institute of Architects and the T Square Club for their twenty-fifth Architectural Exhibition, and so on.

(Incidentally, I may say that these professional men and their organizations have their letters included in a collection which contains similar solicitations from the Plumbers' Social Club of New York, the Police and Fire Journal [of the Police and Firemen of Pittsburgh, Allegheny County and Western Pennsylvania], and the Indiana Ice Dealers' Association, etc., etc.)

How do these professional men like being thus regarded as "birds of a feather . . ."?

The vast majority of these catalogs, Chapter Bulletins, Year Books, Annual Ball Programs, Convention Programs, are of absolutely no advertising value, no sales value. They represent pure waste of money, waste for which the entire population suffers in unnecessary costs of distribution. They represent, also, that form of graft known as "You-scratch-my-back-and-I'll-scratch-yours." Indeed, it is too frequently extremely difficult to distinguish the line that separates these "enterprises" from blackmail.

Perhaps the Chapters of Architects who solicit advertising in their Bulletins think they have as much reason as the JOURNAL of the A. I. A. has for obtaining advertising. Can they see that since the JOURNAL obtains advertising, and they believe in the JOURNAL as the voice of their organization, they should cease soliciting advertisers who do, or may use, the JOURNAL.

Manufacturers who spend money for advertising do so for the purpose of securing the stabilizing of markets, to secure standardized quantity production in their plants for the purpose of securing a minimum unit cost of production, a low selling cost, and so be able to maintain minimum selling prices. They use, in selling their goods, not only the individual salesman, but the mass salesman—advertising.

Architects would shrink in horror, no doubt, from a suggestion that they should ask a manufacturer to turn over to them or someone else some of the money appropriated for the salaries and expenses of the individual salesman.

But some of them do exactly the same thing when they make requests that the manufacturer let them, or someone else, have money appropriated for the use of the mass salesman in ways in which he has found resultful in securing marketing economy and effectiveness.

Whenever I see one of these spurious, vanity advertising, help-me solicitations, I think of a hobo slinking around a house in the hope of a "hand-out." These propositions, in the main, are among the many parasitical elements that afflict advertising practice, commercial enterprise and the public interest. Strange that architects and their organizations should be willing to have themselves classified as parasites.

Yours very truly,

ASSOCIATION OF NATIONAL ADVERTISERS, INC.,
JOHN SULLIVAN, Secretary-Treasurer.

P.S.—There is one matter that I have overlooked: There are architects belonging to the American Institute of Architects who appear to think it is an obligation of that membership that they recommend manufacturers to use the JOURNAL of the A. I. A. Cannot these gentlemen realize that such a course is likely to injure the JOURNAL? Their recommendations are more likely than not to be regarded as pressure. They should understand that when publication space is bought, it is bought on merit—because it will reach the manufacturer's market. Kissing may go by favor; but not advertising orders that are the result of a "hard-boiled," cold, passionless study and appraisal of the capacity of a publication to "deliver the goods."

Mumbo Jumbo Again

To the Editor:

I regret that the Secretary of the Institute should rejoice with me prematurely—for I am not in the least relieved, but rather the more concerned; I cannot rejoice at the misfortune of another. Alas for human credulity! Mr. Parker is not the first explorer to be deceived by the rascally dragnet who infest the ruins of Europe, Africa and Asia, and kindly assist the innocent stranger to unearth treasures thoughtfully planted the night before. In no department of archaeological work are so many forgeries perpetrated as in the domain of epigraphy. The forgery may be physically perfect; but your trained epigraphist submits an inscription to a drastic and infallsible test—the test of intrinsic, internal, evidence. When Mr. Parker's fragment is subjected to even a cursory analysis of spirit, style and content, the discrepancies between the portion quoted by me, and that given by him in the JOURNAL for July, are so glaring that one is amazed that they should have escaped the Secretary's attention. All the evidence points to the fact that the chronicle passed off on Mr. Parker as genuine is a crude forgery, and that it was not written by the same person. It reads like the report of a survey of an unsafe building. It exhibits the familiar and apparently ineradicable obsession—that an architect who regards architecture primarily as an art neglects the natural limitations of materials and the grammar of his art, structure, as a matter of course. Further, it is equally evident that some worshipper of the false gods referred to in the authentic record must have had a hand in the substitution—for even the casual reader will observe that two of the instruments used in the service of the Art of Architecture are very adroitly installed beside the god to share in the worship due to him. Rejoice! Nay. I only laugh that I may not weep.

H. VAN BUREN MAGNOLIA

Errata

Due to a misprint so palpable that we hope it was obvious, we were made to say in our last issue that President Faville was the first president of the Institute to be elected from west of Chicago. Naturally it was intended to have the statement refer to Omaha, since that city is the home of the seventeenth president of the Institute, Mr. Kimball, and is a little farther west than St. Louis where lives the fourteenth president, Mr. Mauran, and whence came the tenth president, Mr. Eames. Also, by way of emphasizing the great injustice of the misstatement, let us record the fact that the seventh president, Mr. Van Brunt, came from Kansas City. We offer our regrets and our apologies.

Structural Service Department appears on the second right-hand page following 268
WOLFF "Kitchenette" Sink

Solves the Space Problem
In Apartment and Other Small Kitchens

During two-thirds of a century architects have learned that they may specify Wolff Plumbing with absolute assurance. The "Satisfaction" record which tens of thousands of Wolff installations have earned by uninterrupted service for many years proves that Wolff Enamelware possesses extraordinary durability.

Wolff "Kitchenette" Sinks have rapidly reached a pinnacle of national popularity with housewives because of their fine appearance, their quality, and a variety of styles which insures a convenient installation in practically any kitchen.

The presence of Wolff Quality Plumbing in a structure implies quality construction throughout.

A folder has been issued showing a typical installation of Wolff fixtures from bathroom to laundry. It features only those items for which the public has indicated an overwhelming preference. Handsomely printed in colors, with perspective drawings and floor plans. Sent free on request.

WOLFF Quality Plumbing
Sanitary Enamelware
Range Boilers
Potteryware
Brass Goods
Marble

CHICAGO
DALLAS HAMMOND
OMAHA CINCINNATI
ST. LOUIS DENVER

Branch or Distributor at Every Central Point

Makers of Quality Plumbing Since 1855

Industrial Section
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

August, 1922
The Raymond Method of Concrete Pile installation is a CERTAIN method of insuring the proper length and taper of every concrete pile—for every pile is cast in a steel shell which is left in the ground—

RAYMOND CONCRETE PILE COMPANY
New York: 140 Cedar Street
Chicago: 111 W. Monroe Street
Canada: Raymond Concrete Pile Company, Ltd., Montreal

"A Form for Every Pile—a Pile for Every Purpose"
Structural Service Department

SULLIVAN W. JONES, Associate Editor
LE ROY E. KERN, Assistant

In connection with the work of the Committee on Structural Service of the American Institute of Architects and in collaboration with other professional societies and organized bodies having the same objective—improvement in building materials and methods and better shelter for humanity in all its manifold vocations and avocations.

Committee Activities

Paint-on-Wood Research. (25c1)—(Suggested Draft of Program).—The object of this undertaking is to learn and promote the best uses of protective coatings on wood, first to increase the durability of the wood and of the article made from it; second, to develop better methods for reducing the swelling and shrinking of wood with changes of moisture; and third, to secure economy and intelligent use of coating materials.

The increasing cost of wood, which inevitably goes on as the natural supply becomes less, makes it a matter of importance to every one to have these things done. It is plain that if by proper care the life of the average wooden building can be doubled, which competent experts think possible, no greater public benefit is in sight.

To accomplish any good results the natures of the different kinds of wood must be considered; these are known to the Forest Products Laboratory; the effects of exposures of different sorts must be observed, the composition and durability of the coatings, and the best method of application.

This research involves an organization which will eventually include experts and specialists in the different lines. At the outset, the work of the superintendent of this particular undertaking may be somewhat along the following lines:

A. Collect books, pamphlets and other literature relating to paint and painting, and varnish. If not already available, these may be bought; lists of such books should be secured through experts, if possible, and from technical and public libraries. Obtain wherever possible the co-operation of the editors of the paint journals. Card catalog all persons interested.

B. Collect advertising matter, color cards, samples.

C. List the species of wood chiefly used in the wood-using industries and their individual uses; find out the difficulties encountered in their use, especially as regards durability, and the difficulties encountered in painting and varnishing. It may be expedient to prepare a printed circular letter to be sent out for this purpose.

D. Get information regarding the immediate services desired by consumers.

(a) Architects.—They may wish to be informed to what extent manufacturers (e.g. makers of doors and windows and casings for same) are prepared to supply their products kiln-dried (1) definitely to a certain percentage of moisture; (2) indefinitely or (3) air-dried; also (4) painted to any architect’s specifications on surfaces not accessible after erection. This information may be had through inquiry, from the manufacturers. Such information is to be accumulated in files. Kinds of wood used.

(b) Furniture Manufacturers.—Collect information about present practice of drying wood-stock; also time which elapses after assembling until varnishing is begun. Also, get information as to kinds of wood used; differences as to cheap and expensive furniture; extent to which paint is used; details as to priming, number of coats, rubbing, decorating, etc. Get samples of varnishes, with names of makers, and prices; ask makers for information. Make tests. (See Bureau of Standards, etc.)

(c) Pursue similar inquiries as to automobile wheel and body makers and other wood-using industries.

E. Inquiry is to be made of painters and decorators, especially such as are recommended by well-known architects, in regard to the use of definite paints and varnishes, especially on interiors. Future investigations are expected to determine the ultimate value of such materials, but much may be learned by inquiry of experienced men; and when any particular material is commended, in many cases its approximate composition may be learned from the makers, and confirmed (or otherwise) by analytical tests, if possible (see Bureau of Standards). Especial attention should be given to methods of use recommended by experts. All such information should be digested by study and consultation.

F. Particular problems proposed by the architects and others should receive attention.

G. Digest the information collected, condense those parts of real value, and put them into forms convenient for quick use.

H. Collect information about available places and facilities for field tests and tests in factories and shops.


Architects and Industry

By Lyman Clark of the General Electric Co.

In adopting the resolution creating a Producers’ Section of the Structural Service Committee, the Chicago Convention of the American Institute of Architects laid the foundation for a greater appreciation of industry by architects and assuredly a greater appreciation of architects by industry.

Practically every professional organization has adopted some means for knowing the manufacturers of products with which its members are professionally concerned. To many it has been a source of wonder that the American Institute of Architects has not long ago officially recognized the producer of the materials with which the architect must create his structures. Certainly this new and broader policy of the Institute will be hailed by both architects and manufacturers as a step, a long step, toward a working realization of the community of interest between them.

There is so much that can be accomplished through the close association of producer and architect, that it is impossible to prophesy all this relation can mean. Architectural conceptions can be of little value without full and appreciative knowledge of the products that must be utilized in their execution. Many a splendid architectural conception has been mutilated by improper selection of materials or their improper use.

XIII
Colored Atlantic Terra Cotta has a place in architecture peculiarly its own when used to enliven a facade of massive stone. For the University of Texas Library at Austin, Mr. Cass Gilbert used stone in a severely plain design contrasted with brightly colored and delicately modeled window decoration and roundels of Atlantic Terra Cotta. The beauty of each material is emphasized by contrast with the other. The Atlantic Terra Cotta adds charm to the dignity of the stone.

“Questions Answered” on request.

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350 Madison Avenue, New York

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Atlanta, Ga.

INDUSTRIAL SECTION
August, 1922

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
STRUCTURAL SERVICE DEPARTMENT

If the individual architect is too occupied, and generally he is, to obtain direct from manufacturers the information he should have, then surely the establishment of a committee of his professional associates who may obtain for him that information in accurate and useful form, must result in benefit to the entire profession; and if such a service is beneficial to the profession, it must also benefit the manufacturer.

Other professional bodies through their association with producers, have rendered material service in setting up many very useful standards. Much of the work done by other professional bodies in their relations with manufacturers might very properly have been done by the American Institute of Architects; had there previously existed a Producers' Section as now established. However, there are innumerable problems yet to be solved and considerable knowledge to be gathered that will greatly aid architects in the design and erection of their buildings. The manufacturer possessing any acumen whatever will be much interested in the opportunities afforded through the Producers' Section to learn the needs of the architectural profession and to produce to meet those needs.

It is a recognized fact that the architect cannot by any means within his individual reach, expand his knowledge to embrace the vast quantity of materials and devices he may use. It is only through the professional body of which he is a member that he may cover the broad field and obtain authoritative information of value to him in his work. In the establishing of the Producers' Section of the Structural Service Committee he has created this medium.

In the discussions by the producers at the second Joint Conference on June 5th and 6th, immediately preceding the Institute Convention, it was quite evident that the manufacturers there represented were anxious to find some effective means of putting before the architects sincere and reliable statements in regard to their products. To them the Producers' Section of the Structural Service Committee seems to offer that means. There is now provided the medium for a better understanding among architects and producers as to their common interest in the adequate presentation and appropriate utilization of products entering into construction.

Abstracts

It is the purpose of the Structural Service Committee and THE JOURNAL jointly to give in this division each month, brief abstracts of all publications by the Government Departments and Bureaus, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and thus afford architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.


Lime is the product resulting from calcination of limestone. The material remaining (oxide of calcium or of calcium and magnesium) is lime. The adjectives used to describe the composition of the stone are equally applicable to the lime. Thus a lime may be high-calcium or dolomitic, siliceous or argillaceous, etc.

“Quicklime.”—The material as it comes from the kiln. It is commonly sold in large pieces, as “lump” lime.

“Ground lime.”—Lump lime put through a crusher.

“Stone lime.”—Lime made from limestone.

“Shell lime.”—Lime made from oyster shells.

The quality of lime depends to some extent upon the kind of kiln in which it was burned; “rotary-kiln” lime is noted for its ability to slake very quickly; “pot-kiln” lime usually contains some coal-ashes mixed with it. Lime is also referred to according to the kind of fuel used in burning. “Wood-burn” lime is usually accepted as the best. The product of any kiln will contain more or less overburnt lime and underburnt lime or core. If these materials are sorted out and discarded, the resultant product is termed “selected lime;” otherwise it is called “run-of-kiln” lime.

Lime is divided into three classes, according to its use: agricultural, chemical and structural. In both the agricultural and chemical fields the word lime is given a broader meaning than in the structural field. It means apparently any material which will produce the same effect as lime and may include ground limestone or air-slaked lime. In the structural field, lime includes quicklime, hydrated lime or slaked lime.

“Lime putty” or “slaked lime.”—The plastic mass resulting from the addition of water to quicklime. If too little water is used the lime may “burn.” Too much water will “drown” the lime.

“Running-off.”—Pieces of core; coal ashes, and similar impurities that have not disintegrated are removed by washing the putty through a coarse screen (¾”), letting it settle, and draining off the excess water. This is known as “running-off.”

Hydrated lime.—Quicklime slaked with just enough water to combine with the calcium oxide and produce a dry powder instead of a putty. Chemically it is identical with slaked lime, but it contains no excess water. The adjectives used to describe limestone and quicklime are used with the same meaning to describe hydrated lime wherever they are applicable. In addition, there are two classes of structural hydrate—“masons” and “finishing.” Masons’ hydrate is used for all structural purposes except the final coat of plaster. This “finish” coat requires such a high degree of plasticity that lime for this purpose must be either finishing hydrate or else putty made from quicklime.

Air-slaked lime.—When either quicklime or hydrated lime is stored without reasonable protection from the weather it will absorb water and carbonic acid from the air. The mass heats slightly, and any lumps of quicklime will disintegrate. The product, termed “air-slaked” lime, is a carbonate of calcium and magnesium chemically identical with limestone. It is worthless as a structural material.

Air-slaked lime should not be confused with hydrated lime. The two materials are similar in appearance, but radically different in composition. Since hydrated lime is a hydroxide, a putty made from it will absorb carbonic acid when exposed to the air, and will “set.” A putty made from air-slaked lime, which is already a carbonate, can not absorb carbonic acid, and can not set.

Note.—Circular No. 106 also gives data on shipments and packages, storage, proportions for use, and publishes a tentative specification for masons’ hydrated lime.

Reflectors for Incandescent Lamps. (31f22)—(Bulletin L. D. 123, Lighting Data, Edison Lamp Works. Size 6" x 9". Pages 34).—In this bulletin will be found many data sheets pertaining to typical standard reflectors. An attempt has been made to cover the field in a fairly complete manner but due to the large number of varieties being sold it is not claimed that all meritorious designs have been included.
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INDUSTRIAL SECTION

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

August, 1922
Classification of Reflectors.—Diffusing and light directing reflectors on the market at the present time may be classified under two general headings, viz., as to material and use. The first mentioned may be subdivided into two general classes—steel and glass.

The term steel reflectors is commonly applied to those which have sheet steel as a base to which is added, to form a reflecting surface, such materials as:

(a) Porcelain enamel, which is practically a coating of opal glass fired on. This forms a reflecting surface which is very permanent, durable, efficient, and easily cleaned. This is undoubtedly the most generally used type of steel reflector. The distribution of light is not changed materially by change of contour of reflector.

(b) Paint enamel, as the name implies, is a coating of enamel paint applied to the reflecting surface. This coating is cheaper than porcelain and when new is quite efficient. However, it is subject to rapid deterioration when exposed to acid fumes, etc., and will not retain its original efficiency after cleaning. The distribution of light is not materially changed by changing the contour of reflector when this type of reflecting surface is used.

(c) The third type of steel reflector is that having an aluminum reflecting surface. An aluminum paint is sprayed on the steel base forming a reflector of fairly high efficiency. As this surface produces specular reflection, it is possible to vary the distribution of light by changing the contour of the reflector. Aluminum paint as to permanency is slightly better than paint enamel but inferior to porcelain enamel.

Glass.—Reflectors made of glass may be divided into three general groups, viz.: (a) opalescent glass, (b) prismatic glass, and (c) mirrored glass.

(a) Opalescent glass reflectors are found in many different designs, the essential differences being contour, ornamentation and density of glass. The construction consists of glass having an infinite number of small white particles in a solid colloidal solution. Reflectors of this type are either blown or pressed. They are translucent, of varying efficiencies, and the transmitted light is, in general, well diffused, the degree of diffusion depending on the quality of glass.

(b) Prismatic glass reflectors are made of clear glass, moulded into scientifically designed prisms. Each prism is designed with reference to the position of the light source, physical dimensions, such as size of bulb and light center length, are standard. To obtain the most satisfactory results, the specified combination of lamp and reflector should be adhered to. This is particularly important in reflectors which control the distribution by regular or specular reflection, as any variation from standard filament positions materially changes the distribution.

In reflectors which control the distribution by diffuse reflection, the change of filament position within certain limits does not materially change the shape of distribution. However, such a variation will result in either a greater amount of glare or a smaller quantity of effective light.

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Effect of Alkali Soils on Concrete. (4a)—(Abstract of Technologic Paper of the Bureau of Standards No. 214, by G. M. Williams. “Durability of Cement Drain Tile and Concrete in Alkali Soils”; Third Progress Report, 1919-1920.)—This progress report gives an account of the condition in 1919-1920 of experimental drains laid in western alkali districts in 1913, and of large concrete blocks similarly exposed in 1915. Both drain tile and concrete blocks were made up in sufficient quantity and variety to be representative of all qualities. The paper contains two appendices, one containing a summary of the absorption tests on samples of all types of drain tile used in the investigation, and the other a discussion of the occurrence of soluble salts in the soil and their action on cement and concrete.

Conclusions.—The following tentative conclusions have been drawn:

1. The use of cement drain tile in soils where sulphates occur in considerable quantities is hazardous. In certain localities the best quality of tile disintegrated within six years.

2. Porous or permeable tile, made from lean or dry mixtures, are subject to disintegration in sulphate waters of relatively low concentrations.

3. Disintegration of mortar or concrete in sulphate waters may be due in part to physical forces arising from crystallization of salts in the pores, but it is primarily due to chemical attack upon the cement.

4. In the best quality of tile the outer skin may sometimes remain apparently unaffected at the same time allowing the alkali water to pass through and attack the mass underneath.

5. In tile of given quality exposed to sulphate waters, the disintegrating effect seems to vary with the concentration.

6. Tile made by hand or with the packer-head type of machine, and of sufficiently dry consistency to permit immediate removal of the moulds, are less resistant to alkali action than tile of a wetter consistency which requires their retention in the molds for a period of hours.

7. Tile cured with steam seem to be no more resistant to alkali attack than those cured by systematic sprinkling. Tar and cement grout coatings were not effective in protecting the tile.

8. If cement drain tile are to be used in soils or waters containing more than 0.1 per cent of sulphates, careful consideration should be given to sub-surface conditions, the quality of tile to be used, etc.

9. Quality of cement drain tile can be best measured by permeability tests. There appears to be little definite relation between permeability and the related factors of porosity, absorption, and density.

With regard to concrete the following tentative conclusions have been drawn:

1. Materials of good quality and proper workmanship are of great importance in the fabrication of concrete exposed to alkali soils and waters.

2. Surface action on concrete blocks of good quality after 1 year's exposure has in most cases been progressive.
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Practical Building Arts, Paris, 1919
3. The extent and rapidity of disintegration depends upon concentration of soluble sulphates.

4. Disintegration of concrete blocks, containing reinforcing rods, has in some cases been aided by corrosion of the rods and consequent splitting of the concrete.

5. Concrete structures exposed to alkali waters should be given all possible protection by drainage.

6. Concrete of the best quality will disintegrate if exposed to sufficiently high concentrations of alkali, such as were encountered in some of the locations where the test blocks were installed.

So far as the tests indicate, the resistance to alkali action of mass concrete, made of the same aggregates and exposed to the same concentrations, varies with the cement content or richness of mix. This again seems to indicate that strength and permeability rather than absorption, are the governing factors in determining the quality and durability of concrete under alkali exposure.

Quantities of Materials for Concrete. (481)—(Bulletin No. 9—Structural Materials Research Laboratory—By Duff A. Abrams and Stanton Walker. Pages 21. Size 6" x 9").—This bulletin gives tables of proportions and quantities of materials required to produce concrete of a given compressive strength. By varying the proportion of water, cement and aggregates concrete of the same compressive strength may be produced by using fine and coarse aggregates of a wide range of different sizes.

Purpose of Tables.—To furnish a guide in the selection of mixtures to be used in preliminary investigations of the strength of concrete.

To indicate proportions which may be expected to produce concrete of a given strength under average conditions where control tests are not made.

To furnish a basis for comparing the relative economies of materials made by combining aggregates of different sizes, when the workability and strength of the resulting concrete are taken into account. (In other words, it is not necessary to restrict aggregate sizes to those usually mentioned in specifications.)

To furnish a basis for making changes in proportions to compensate for variations in size and grading of aggregates or workability of the concrete during the progress of the work.

Fundamental Considerations.—The strength of a concrete mixture depends on the quantity of mixing water in the batch, expressed as a ratio to the volume of cement so long as the concrete is workable and the aggregates are clean and structurally sound. The strength of the concrete decreases as the water-ratio increases.

The effect of differences in the quantity of cement is reflected by differences in the water-ratio. In richer mixtures, a given condition of workability can be produced with a lower water-ratio, and consequently give higher strengths.

There is an intimate relation between the size and grading of the aggregate and the quantity of water required to produce concrete of a given workability. The strength of concrete is affected by the size and grading of aggregate only in so far as the quantity of mixing water is influenced by these variables, so long as the aggregate is not graded too coarse for proper workability. Finer aggregates require more water for a given plasticity and quantity of cement, and therefore give lower strengths than the coarser aggregates.

It is not necessary, or desirable, that the aggregate be proportioned according to any fixed grading; wide variations in gradings of aggregate may occur without affecting the quantity of mixing water or the quality of the concrete. The classification of all aggregate finer than ¾ in. as fine aggregate, and that above this size as coarse aggregate, is purely an arbitrary division. Aggregates separated into any sizes may be proportioned to give desired results, so long as the grading will give workable concrete. The separation of aggregates into two sizes is desirable to facilitate uniform proportioning of successive batches.

Plasticity or workability is an essential requirement of concrete for structural purposes. If a high degree of workability is necessary, this factor must be taken into account in designing the mixture. It is essential that the workability be kept under proper control.

Properties of Ordinary Wood Compared With Plywood. (1946)—(Technical Note No. 131. Forest Products Laboratory.)—Wood is a nonhomogeneous material, with widely different properties in the various directions relative to the grain. The Forest Products Laboratory has found that the tensile strength of wood may be 20 times as high parallel to the grain as perpendicular to the grain, and its modulus of elasticity from 15 to 20 times as high. In the case of shear the strength is reversed, the shearing strength perpendicular to the grain being much greater than parallel to the grain. The low parallel-to-the-grain shearing strength makes the utilization of the tensile strength of wood along the grain difficult, since failure will usually occur through shear at the fastening before the maximum tensile strength of the member is reached.

The large shrinkage of wood across the grain with changing moisture content may introduce distortions in a board that decreases its uses where a broad, flat surface is desired. The shrinkage from the green to the oven-dry condition across the grain for a flat-sawed board is about 8 per cent and for quarter-sawed board about 4½ per cent while the shrinkage parallel to the grain is practically negligible for most species.

It is not always possible to proportion a solid plank so as to develop the necessary strength in every direction and at the same time utilize the full strength of the wood in all directions of the grain. In such cases it is the purpose of plywood to meet this deficiency by cross banding, which results in a redistribution of the material.

In building up plywood a step is made in obtaining equality of properties in two directions, parallel and perpendicular to the edge of a board. The greater the number of plies used for a given panel thickness, the more homogeneous in properties is the finished panel. Broadly speaking, what is gained in one direction is lost in the other. For a very large number of plies it may be assumed that the tensile strength in two directions is the same and that it is equal to the average of the parallel-to-the-grain and perpendicular-to-the-grain values of an ordinary board.
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August, 1922
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Volume X
SEPTEMBER, 1922
Number 9

CONTENTS

Rochester—The Old North Gate into High Street. Louis C. Rosenberg; engraved by
J. J. Lankes .................................................. Frontispiece

Shadows and Straws ........................................ C. H. W. 269


Vingt Ans Après ........................................... H. Van Buren Magonigle 276

London Letter .................................................. X. 283

Four Gargoyles ............................................ John Arms Taylor 285

Ponts and Pontists ........................................ C. H. W. 289

The Division of Labor ..................................... Frederick Lee Ackerman 291

Mr. Thomas Hastings Receives the Royal Gold Medal of the Royal Institute of British
Architects ..................................................... 294

Community Planning and Housing ......................... Clarence S. Stein 298

Letters to the Editor ........................................ 299

Institute and Chapter Activities ............................ 301

News Notes ..................................................... 302

Obituary ........................................................ 302

Structural Service Department ............................. xiii

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IN NEW YORK CITY, recently, a group of plasterers presented a demand which is not unusual in these times. Although the union rate of pay is ten dollars a day, and they are now receiving twelve, they asked for Sunday work at twenty-four dollars a day. For reasons which had to do with an owner's wish, they were conceded this demand. On the following Monday morning they again gave notice that they must have Sunday work, at the same rate, as the price of their continuance. This time, they were refused. The architect calculated that their previous Sunday's work had netted about one good half day per man. On being refused their demand, they downed tools and left the job.

The occurrence is no doubt paralleled all over the land. Plasterers are scarce. The market is in the hands of the sellers of that particular kind of labor. But the opinions expressed as a rule are severely condemnatory of this sort of action. Certainly it is not to be upheld, but while any intelligent commentator must be aware of the extent of this practice in all modern business, since evidences of it are to be had in reading a newspaper, there is one particular aspect of the matter to which more attention might profitably be directed.

In this issue of the JOURNAL, Mr. Ackerman writes on the "Division of Labor," and the incident of the plasterers has a great deal to do with that question. For example, it is because of the division of labor that the plasterers were able to execute their frontal attack. No other trade will today do plastering. In former times this was not so. Bricklayers and masons and plasterers often did each other's work. Now they have apportioned among themselves their various activities. So it is all through the gamut of modern industry. A vested interest, or its equivalent, has been established. The practice obtains in all professions and is thoroughly entrenched in business.

Running along with this evolutionary process there may be discovered the shortage of skilled workers in all lines of industry. The census statistics are illuminating, but the experience of architects generally bears out the considered opinion of students. The number of skilled workers is decreasing and the measure of skill is likewise deteriorating. The Apprenticeship Committee of the Congress of the Building Industry in New York City is making the first concerted effort of which we have heard to discover the facts in the case and apply a remedy. They are being actively supported financially by builders and by bankers, which may fairly be taken as added evidence of the conditions to which allusion is made.

Yet it is very plain, if one stops to think of it, that the whole tendency of machine industry is to dispense with skill and judgment. In other words a major force is opposing a minor one. It has not passed unnoticed, by any means. Dr. Ralph Adams Cram, in his writings, has touched the question, though not primarily, particularly in "Walled Towns." Mr. Arthur J. Penty, also an architect though practising in England, has probed the question deeply in his last work, "Post Industrialism," which Dr. Cram is soon to review in these columns. Mr. Ackerman, a third architect, examines the question very closely, in the article to which we refer, and it is significant that the effect of the machine is being regarded with misgivings throughout the western world. The east has long suspected it. The friends of Japan have noted the results of its adoption. The friends of China view its incursions there with keen regret, and the Chinese themselves are opposed to it. Rathenau, the assassinated German Foreign Minister, intimately connected with one of the greatest industrial establishments in the world, expressed the opinion in his remarkable writings, that machinery was one of the greatest dangers to civilization.

Of what use to become acquainted with these facts? Perhaps no more than it is to learn that the result of the Cretan excavations completely changes the archaeological inferences of the last hundred years. On the other hand, in the event that one proposes to act, it is
sometimes useful to know the nature of the forces against which one is to contend. Such knowledge conserves fervor and often prevents a foolish investment of energy. Life is a flow and gets rid of things by decay. The machine, speaking generally, will decay along with the rest of things, unless the motive that now directs it toward the destruction of man is changed.

Lunching with a member of the Royal Institute, in London, in May, our conversation fell upon the Royal Gold Medal, the award of which to Mr. Hastings had then been announced. Our host mentioned Mr. McKim as having been the first American architect to receive the medal, and, neglecting to look up the fact, this error was so recorded in our August issue, much to the editor’s regret. The list of Royal Gold Medalists is appended below, from which it will be seen that Mr. Richard Morris Hunt was the first American architect upon whom the medal was bestowed. The presentation address, and Mr. Hastings’ reply, appear in full elsewhere in this issue.

1848-Charles Robert Cockerell.
1849-Luigi Camina, Italy.
1850-Sir Charles Barry.
1851-Thomas L. Donaldson.
1852-Leo Von Klenze, Austria.
1853-Sir Robert Smirke.
1854-Phillip Hardwick.
1855-J. I. Hittorff, France.
1856-Sir William Tite.
1857-Queen Jones.
1858-August Stuler, Germany.
1859-Sir G. Gilbert Scott.
1860-Sydney Smirke.
1861-J. B. Leenner, France.
1863-Anthony Salvin.
1864-E. Viollet-Le-Duc, France.
1865-Sir James Pexnethorne.
1866-Sir M. Digby Wyatt.
1867-Charles Teater, France.
1868-Sir Henry Layard.
1869-C. R. Leprins, Germany.
1870-Benjamin Ferrny.
1871-James Fergusson.
1872-Baron Von Schmidt, Austria.
1873-Thomas Henry Wyatt.
1874-Geo. Edmund Street.
1875-Edward Sharpe.
1876-Joseph Louis Duc, France.
1877-Charles Barry.
1878-Alfred Waterhouse.
1879-Marquis de Pogüé, France.
1881-George Godzie.
1882-Baron Von Ferstel, Austria.
1883-Fraz. Cranmer Penrose.
1884-William Butterfield.
1885-H. Schlemman, Germany.
1886-Charles Garnier, France.
1887-Ewan Christian.
1888-Baron Von Hansen, Austria.
1889-Sir Charles T. Newton.
1890-John Gibson.
1891-Sir Arthur Blomfield.
1892-César Daily, France.
1894-Lord Leighton.
1895-James Brooks.
1896-Sir Ernest George, R. A.
1897-Dr. P. J. H. Cuypers, Holland.
1898-George Aitchison.
1899-George Fredk. Badley.
1900-Professor Rodolfo Amadeo Lanciani, D. C. L. Ozo, Italy.
1901-Not awarded owing to the death of Queen Victoria.
1902-Thomas Edward Collcutt.
1903-Chas. F. McKim, U.S.A.
1904-Auguste Choisy, France.
1906-Sir Alma-Tadema.
1907-John Belcher.
1908-Honoré Daumet, France.
1909-Sir Arthur John Evans, D.Litt., F.R.S.
1910-Sir Thomas Graham Jackson, Bart., R.A., LL.D.
1911-Wilhelm Dörpfeld, Germany.
1912-Basil Champneys.
1913-Sir Reginald Blomfield, R.A.
1914-Jean Louis Pascal.
1915-Frank Darling, Canada.
1916-Sir Robert Rowand Anderson.
1917-Henri-Paul Nénot, Membre de l’Institut.
1918-Ernest Neutron, C.B.E., R.A.
1919-Leonard Stokes.
1920-Charles Louis Girault, Membre de l’Institut.
1921-Sir Edwin Landseer Lutyens, R.A.
1922-Thomas Hastings, U.S.A.

The Autobiography of An Idea

By LOUIS H. SULLIVAN

Chapter IV.

A Vacation.

Our child became moody. Day by day the hillside school and all its doings irked him ruthlessly. In wood, field and meadow, his friends the birds were free. Why should he remain within these walls imprisoned and sad? He was a child of sudden resolves. On a morning early he went to the pantry. As he glanced over the shelves, his thoughts wandered to the pink and white smiling baker who delivered "Parker House Rolls" every so often, and, with a cheery word left thirteen for a dozen. "A baker’s dozen" he would say every time he drove up to the kitchen door; and then in a busy way inquire: "How’s all the folks?" "Guess I don’t need ask if this boy’s a sample." Then he would make a quick step into his light wagon and away with a rattling start. The boy in the quiet pantry unbuttoned his blouse, as his thoughts went on:—Not so at the school:—Teacher was not always kind. Twice with a rattan she had whipped the palm of his right hand while he
placed his free arm across his eyes and bent his head and cried. It did not hurt much, but Teacher said it hurt her more than it did him. She told all the class so. She said she must make an example by having him stand on the platform and she said she did it to "learn him to mind and pay attention"; that it was her moral duty to do so; that she could not fail in her moral duty even though it pained her; that she punished not in anger but in grief; and then she cried, her forehead bowed between her hands, as she sat at her desk on the raised platform; he recalled that she had cried this way every time she had whipped a child, and she didn't whip very often either; so he bore her no ill will; yet he wondered why he should be whipped at school when he was never whipped or punished at all, at home; and again came floating the thought of the dainty baker-man; nimble, pink faced, blue twinkling eyes and jolly chuckle. Thus musing but intent he filled his blouse with rolls and doughnuts and cookies—and buttoned up. Also, he had, hidden in his bosom, a small tin cup; for he knew where he was going. He was preparing to answer the call of a wooded ravine through which wandered a noisy rivulet. He had seen it but once, while on a walk with Grandpa, but he marked it then as the favored spot in his imaginary world. Once found and marked for friendship, it often had called to him in his school—a distant call—he could not come. This morning it called to him irrevocably and nearby. Without a word to any one he set forth, following the Stoneham Road westward until he reached the gate of a right of way leading northward. He climbed the padlocked gate, and, following the road, soon passed a long hillock to the left crowned with tall hardwood trees, then down grade, then upgrade to a crest where the road ended. He climbed the gate and in new freedom, lightly traversing the down slope, reached the depths of the promised land. One bright particular spot was his goal. It lay in the narrow bottom of the ravine just where the gurgling water passed hurriedly among field stones under tall arching oaks. Here was the exact spot for a dam. He got immediately to work. He gathered the largest field stones he could handle, and small ones too. He had seen Scotchmen and Irish build farm walls and knew what to do. He was not strong enough to use a stone hammer if he had had one. So he got along without. He found a rusty remnant of a hoe, without a handle; with this he dug up some stiff earth. So with field stones, mud, twigs and grass he built his dam. It was a mighty work.

He was lost to all else. The impounded waters were rising fast behind the wall, and leaking through here and there. He must work faster. Besides, the wall must lengthen as it grew higher, and it leaked more at the bottom. He had to plug up holes. At last child power and water power became unequal. Now was at hand the grand climax—the meaning of all this toil. A miniature lake had formed, the moment had arrived. With all his strength he tore out the upper center of the wall, stepped back quickly and screamed with delight, as the torrent started, and, with one great roar, tore through in huge flood, leaving his dam a wreck. What joy! He laughed and screamed. Was he proud? Had he not built the dam? Was he in high spirits? Had he not built this dam all by himself? Had he not planned in advance just what happened? Had he not worked as hard as he had seen big men work? Wasn't he a strong boy for his age? Could anything at school or at home compare with this? Exhausted with work and delight he lay stretched on his back, in the short grass, looking far up at the spreading branches, glimpsing bits of blue between the leaves, noting how these self-same leaves rustled softly, and twinkled in the sunshine. This rested him. Then hunger sharply called. He had cached his Parker House rolls and doughnuts and cookies, and his tin cup, on a big boulder in the shade. The "hired girl," Julia, had taught him to milk. Dipper in hand he went afield to hunt up a cow. All cows were his friends. Soon he had the dipper filled with warm fragrant milk—his delight. Then came the repast the time this proud hydraulic engineer was born. But he did not observe "a spear of summer grass": he dreamed. Vague day dreams they were;—an arising sense, an emotion, a conviction; that united him in spirit with his idols—with his big strong men who did wonderful things such as digging ditches, building walls, cutting down great trees, cutting with axes, and splitting with maul and wedge for cord wood, driving a span of great work-horses. He adored these men. He felt deeply drawn to them, and close to them. He had seen all these things done. When would he be big and strong too? Could he wait? Must he wait? And thus he dreamed for hours. The shadows began to deepen and lengthen; so, satisfied, with a splendid day of work and pondering, he reached home in time for supper. Grandma said the usual grace, all heads bénit which sounded to him like one word: Kudgerno-
In his discourse, he was careful not to mention the revolution of the earth. He knew well enough the child was living in a world of the senses. “But Grandpa, is the sunrise as beautiful as the sunset?” “Far more so, my child; it is of an epic grandeur; sunset is lyric, it is an elegy.” These words escaped Grandpa in a momentary enthusiasm. He felt foolish, as he saw a small bright face turn blank. However, he patched up the “lyric” and the “elegy” fairly well, but “Epic” was difficult. Had he but known of his grandson’s big strong men—how simple. Then Grandpa wide-eyed knew a mystic golden bell had struck the hour. He told the boy at once that the rising sun could not be seen from the house because Cowdrey’s hill shut off the view; that the sun truly arose far beyond this hill. That to see the sun rise one must go to the crest of the hill, whence one could see to the horizon. He used the word horizon boldly, as one throws down a card, and then with strategy of simple words, and easy smiles he produced a sort of image for the child: difficult to do in a hilly country, and for the mind of one who had never viewed the open sea. Then he explained that the lay of the land westward of the house was not so hilly as that to the east, therefore one could view the sunset to fairly good advantage.

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Restless through the night, he arose at twilight, made ready quickly, and passed up the road leading to the great ash tree whose companionship he ever sought on
high occasions. Here, under the wondrous tree—and with Cowdrey's farmhouse resting silently across the way—here in stillness of oncoming dawn punctured here and there by a bird's early chirp, and chanticleer's high herald call heard near and far, raucous, faint, and ever fainter far away; the few remaining stars serene within the dome of pale passing night, he stood, gazing wistfully over the valley toward a far away range of dark blue drowsy hills, as the pallid eastern sky, soon tremulous with a pink suffusion, gave way before a glow deepening into radiant crimson, like a vanguard of fire—as the top of the sun emerging from behind the hills, its slow-revealing disc reaching full form, ascended, fiery, imperious and passionate, to confront the child. Chilled and spellbound, he in turn became impassioned with splendor and awe, with wonder and he knew not what, as the great red orb, floating clear of the hilltops overwhelmed him, flooded the land; and in white dazzling splendor awakened the world to its work, to its hopes, to its sorrows, and to its dreams. Surely the child, sole witness beneath his great ash tree, his wonder-guardian and firm friend sharing with him in its stately way as indeed did all the land and sky and living things of the open—the militant splendor of sunrise—the breaking of night's dam—the torrent and foam of far-spreading day—surely this child that went forth every day became part of sunrise even as this sunrise became forevermore part of him. The resounding power of the voice of the Lord of the sky and earth found in him a jubilant answer—an awakening world within, now aroused from its twilit dream, its lyric setting sun, its elegance of the gloaming. The great world was alive to action. Men resumed the toil of countless ages: the child, illumined, lost in an epic vision, came slowly to a consciousness of his own small self, and the normal doings of his own small day. He made a long detour through the solemn pine woods near Whittemore's, crossed the road there, descended into the small valley, followed it to and through a lumpy bog where skunk-cabbages grew and their synonyms wandered, scaled a low wall, followed a rivulet that traced from the considerable spring in the hollow of his own pasture, sat there watching a small frog, fell asleep, woke up, followed the hollow to the pasture's high ground, turned into the walled road leading to the barn, stopped at the pump in the kitchen yard—and was late to breakfast. Grandpa looked at him quizzically, but said nothing—he knew what the imp had been up to—he had heard him leave the house and had hastily donned gown and slippers, to watch his grandson disappear up the road to sunrise land. Julia was furious in rich brogue concerning punctuality, and the child, usually so naïvely communicative, said not a word to anyone about his adventure—it seemed to have happened for himself alone. Grandpa amused, amazed and disturbed by this freak of his grandson, feared precocity—in much the manner that academically trained men are apt to fear manifestations of instinct. The only thing that reassured him was the fact that his grandson, between spells, was as ridiculously practical. As a matter of fact the child was living almost wholly in the world of instinct. Whatever there was of intellect consisted in keen accuracy of observation, and lively interest in all constructive affairs. Without reflection he admired work. To see men at work, and himself to work, especially if he could participate, was his childish joy. With never a serious illness, most carefully reared as to dietary and early hours, he was sound. Though he was his grandparents' pet, disparity in age, occupation and thought left him much to himself; and he did mostly as he pleased. What marked him apart and comforted his elders was an entire absence in him of destructive tendency. Therefore they allowed him the utmost freedom to go and come and do. This morning, breakfast out of the way, and Julia also, he went at once to his garden. His quick eye detected a fallen nasturtium; with his finger he dug up the offending cut-worm. How could a cut-worm do so shocking a thing? Had he not reared all these cherished beauties from the very seed? Had he not watched them growing, day by day, from infancy to blossom-time—putting forth tender leaf after leaf, and unfolding their tiny buds into lovely flowers? Had he not watered them and weeded? How often had he wondered at what made them grow. How often, on hands and knees—close up—had he peered and gazed long, hungrily, minutely at them one by one, absorbed in their translucent intimacy; indeed worshipped them in friendship until he seemed to feel them grow: that they were of his world and yet not of his world; that they seemed to live their own lives apart from his life. But he never said a word of this to Grandpa or to Grandma—They might not understand—and Grandpa might laugh.

After further careful inspection, he left his garden friends for the day; and equipped as before, made his way to the ravine with its sturdy rivulet and the wreckage of a dam. But this he judged was not dam-building day. He had not seen the full spread of his domain. He must explore. So saying, he followed the rivulet eastward out of the heavily wooded ravine, into a broad field of meadow grass where the small clear stream now flowed—in tranquillity winding its way. As he lifted his eyes from its course, there, solitary in the meadow, stood the most beautiful tree of all. He knew it at once for an elm; but such tall slender grace he had never seen. Its broad slim fronds spreading so high and descending in lovely curves entranced him. He compared it with the two Tompson elms. They were tall and spreading but stiff and sturdy. Now he knew why he had never adopted them:
—they were pruned from the ground way up to the big strong branches, while this lovely sister of the meadow, beneath her branching plume, put forth from her slender trunk delicate frothy branchlets reaching almost to the meadow grass. Her beauty was incomparable. Then he thought of his great ash tree. How different it was—so grand, so brooding, so watchful, on the crest of the hill; and at times, he firmly believed, so paternal—so big-brotherly. But the lovely elm was his infatuation—he had adopted her at first sight, and still gazed at her with a sweetness of soul he had never known. He became infiltrated, suffused, inspired with the fateful sense of beauty. He melted for an instant into a nameless dream, wherein he saw she was sufficient unto herself, that like his garden plants she lived a life of her own, apart from his life. Yet they, both, lived in the same big world—they, both, for the moment stood in the same green field. Was there nothing in common? Did she not know he was there? Then he awoke—he came to his senses, and turned to the practical business of hunting wild strawberries in the meadow grass. His dream had fitted by like a bird of passage. He looked upon her sanely now. She was still uniquely beautiful, he thought, in free admiration. So he had two trees now—all his own, and powerfully prized. It was all agreed. Then he moved further north to a dense mass of rather tall pines. He pushed in some distance, saw a crow's nest overhead, climbed painfully up to it, had barely looked in when came a horrible cawing; angry crows came suddenly from everywhere, bent on his destruction. Amid a fierce clamor, he descended to safety and then and there fixed these gloomy pines as the eastern boundary of his domain. He explored until he found in another field, on slightly higher ground, the deep clear wellspring from which the rivulet flowed. Thence, he followed its windings, winding as he went. Grasshoppers in alarm hopped foolishly into the stream and floated along; now and then a small frog jumped the other way for safety. There were a few strawberries peeping from the grass along the banks; the channel was cutting deeper into the meadow and held more water; as he rounded a long curve he became aware of a great presence near him; it was his elm; he craned his neck to look at the branches way up in the sky, but his interest was centered in his new friend the rivulet, he had not room for both just now. The little stream began to ripple and sing sweetly, to the child all alone in the meadow in the full sunshine—all alone: with plenty of company. Then the rivulet began to hurry and gurgle. The child scaled the fence quickly, to see the water descend all at once, in a beautiful cascade of about his own height. After this, noisily foaming, it poured among the boulders to the lower level where he had built the dam, and, as he knew, moved on to the marsh.

He had reached his sanctuary in the shady grove, and sat a while on the lower or northern bank, to watch the squirrels. It seemed so funny to see a gray squirrel run head first down a tall tree, sit up straight, in the grass, frisk his tail, wag his head, scamper to the next tree, run up, and out to the end of a branch and jump from that to a branch of the next tree. He laughed gleefully at these antics. Meanwhile came from the undergrowth the note of the brown thrush, and from above various twitterings, chirpings, and distant floating meadow songs. It was now time to establish the northern boundary. The north bank of the ravine sloped rather gently upward, and as it emerged from the grove it rounded and flattened into a lumpy pasture, with many boulders large and small, and plants of mullein scattered over its surface. He must include this pasture because here was the milk supply, and besides, the pasture was green. All along the north border of it stood a dense growth of young pines which he found impenetrable and repellant, so he fixed his northern boundary resolutely there. As to the southern boundary he was in some doubt. It should, properly, be located a little way south of the crest of the ravine where the grove ended. He mounted the height and stood at the edges of a sterile stony sunburned pasture—no trees, no cows; nothing but mule-leans. This would not do. Yet he yearningly gazed beyond it to the long Tompson hillock crowned with beautiful lofty hard wood trees running parallel to the ravine. He wished this grove to be his, but could not accept the miserable pasture. He thought hard,—and solved his problem this way: He would fix the south boundary at the crest of the ravine, and would annex the Tompson Grove as an outpost. The boundary of the meadow he had already fixed, much farther south than the ravine, at a cross fence near the spring, where the meadow ended and a cultivated field began. He contemplated for a while, and saw that all thus far was good. Now for the marsh; at which he had cast covetous eyes as he, yesterday, peered under the lower branches of his grove as through a portal. His expectations were far exceeded by the revelation. It was a lovely marsh, shaped like an oval, enshined by the diminishing trees of his grove and a margin of heavy shrubbery all around. In the near background beyond the far end of the marsh were scattering swamp pines and cedars standing very straight and tapering to a point; they were welcome to him as they stood on guard behind the dense thicket. But the marsh itself—how beautiful—covered with water half-knee deep, filled with groups of tall bulrushes, of reeds, of blue flag, and slender grasses; and bright flowers here and there along the wavering edge. What joy to wade and wade, lengthwise and crosswise, pulling up a flag now and again and stripping it to reach the edible core; following the margin to seek out hidden flowers. It was too
much; too much at one time for one small boy. And then, in mingled affection and gratitude he established as western boundary a vague semicircle of deep green holding in its heart a marsh—his marsh without price. Slowly he returned to the dam-site to think it all over. Now was the work done. The boundaries of his domain established. The domain his very own. His breast swelled with pride. It was all his. No other boy should ever enter these lovely precincts. No other boy could understand. Besides, he loved solitude as he loved activity, and the open.

Thus an entire month sped by as he reigned supreme.

Not a soul came to disturb him: Rabbits, squirrels, birds and snakes were company enough. When he wished to play with other boys he went to them and joined in their games. While his heart was fixed in one spot, he made many tours of exploration; he called on many farmers and shoemakers. He even went so far one day as to enter the stove foundry beside the tracks, near the depot. He went frankly to a workman, watched him a while and told the man he liked to see him work. The moulder much amused said he would show him how it was all done. The child frankly spent the entire afternoon there; the moulder carefully explained to him every large and minute procedure. The child was amazed; a new world had opened to him—the world of handicraft, the vestibule of the great world of art that he one day was to enter and explore. He went away holding this moulder-man in special honor, although he was not very big nor very strong. He even visited the rattan works but did not like the dust and noise. He saw nothing but a long slender cane coming out of a machine. One day he saw a man in a wagon. The wagon was going without a horse. Also he visited a shoemaker named Boardman who lived near his home and whom he knew well; a swarthy little man, with black beard, black beady eyes, who both worked and chewed tobacco furiously. There he learned every detail of making pegged and sewed shoes; he saw them built from beginning to end. The child would visit Farmer Hopkins to watch him break a fallow field with his monstrous team of oxen swaying and heaving heavily against the yoke, with low-bending heads and foaming mouths, as the man, with one booted foot in the furrow, guided the plowshare as it turned up the beautiful black soil of the bottom land, while the man said, “gee-haw”; “haw”; “haw-gee.” Many such trips he made, always starting from his secret domain. Evenings he would tease Julia to tell him Irish fairy tales. How lovely, how beautiful they were, with fairies, elves, gnomes and a great company, weaving spells of enchantment in the moonlight. He lived them all. Julia was a robust Irish peasant who remained with the family for nine long years. Fiery was her hair; brilliant her white perfect teeth of which same she was very proud. And had she a temper? Sure! she had a temper that came and went like a storm. She was not long since come to America. Many evenings her Irish women friends called and they talked Irish together. He had never heard anything so sweet, so fluid except the rivulet. He could listen by the hour; and Julia taught him a few words.

All was running smoothly. It had not in the least occurred to him that all this time he had been a truant. No one had said anything for a whole month; or asked any questions.

Then came the crash! Teacher had written. Little was said at home. He was simply sent back to school. Here he languished in misery. But help soon came as suddenly as the crash. His father had opened a summer school in Newburyport. Grandma had written to Mama; Mama had told it to Father; Father decided that the grandparents were too soft; they had let the child grow up like a weed; they had pampered him outrageously; it was high time his son was brought to him, that he might establish in him a sense of respect, order, discipline, obedience. So Mama took the train to South Reading. She spent a few days there visiting her parents. She looked at her son with a sadness he could not understand, but she found it not in her heart to chide. The day of their departure arrived. With many a sob he had said good-by to all. They were driven to the depot. Mother and son boarded the train for Newburyport. The engine puffed—the train sped on its way. Came to an end the day-dreaming of a child.

(The to be continued)
Vingt Ans 'Aprés

By H. VAN BUREN MAGONIGLE

Photographs by the Author

Crossing.

Only Carlsen has painted such a sea as that we sail upon, or such a sky as that which overarches us; the ocean is of that marvellous blue of his, overlaced with a violet mesh, broken to the horizon by the white-caps of a lovely day of mid-summer; and where they break, nearby, the emerald of the thinning waves. Light clouds float far off and are reflected in the sea in pale lavender. At the night falls the sea grows darker until it seems a deep blue carpet laid down for the coming of the moon. At the horizon the sky is turquoise and deepens toward the zenith into purest cobalt.

Paris.

My chief impression of Paris, vingt ans après, is not of the majesty of that superb composition which sweeps from the Louvre of Louis XIV to the Arc de Triomphe, nor of the mystery and beauty of the quais at night, nor of the so-called gaiety of the Grands Boulevards, nor of the quaintness of the Latin Quarter, nor of the elegance of the shops in the Rue de la Paix. It is of the noise—hideous and unparalleled except in the heavy trucking traffic of New York under the elevated railroad. The Parisians should erect, as a pendant to the Arch of Triumph of the Star, an Arch of Triumph of the Noise.

There are myriads of taxi-cabs, each more decrepit, ramshackle, and rattling than the others, with noisy motors and gears that shriek and clash; there being no means that approaching a corner they must blow their horns and, to be effective at the speed they move, they must begin to toot at least a hundred feet away. They all tear about at the utmost they can get out of their engines, twenty-five to forty miles an hour. This means that approaching a corner they must blow their horns and, to be effective on the streets they move, they must begin to toot at least a hundred feet away. They are all hand horns with a toot of a peculiarly rasping, exasperating, exacerbating quality. And when from four to a dozen come up to a corner together, with a couple of thudding motor-busses thrown in, the effect is not to be described except in terms too emphatic for these pages. The tired traveller, unwilling to close his windows and suffocate, must wait perforce until midnight, before the milk wagons and garbage camions and wine trucks begin—and they begin business early.

We hunted in vain for a quiet spot. "This is a quaint, quiet old street," we would say—and the punctual and ungodly machine would come careering around the corner on two wheels, shattering the silence with crazy blasts of the horn, and go drunkenly away down the street, blowing the horn to scare a cat from the road, blowing the horn to warn an old woman two hundred feet distant, blowing the horn to warn pedestrians peaceably moving along the sidewalks not to step out into the road and be run over and be arrested for being run over, blowing the horn for any other reason or for none at all, or to cover up the rattle of the crazy old thing itself.

We took refuge in the Luxembourg Gardens. But although the nights were warm enough, there is a prejudice against the use of the parks for sleeping out, and we had to brave the row again. The heat had been extraordinary just before we reached Paris, rising to ninety-eight and nine; and the mind refuses to picture the horror of that heat in combination with that noise. The percentage of murders must have perceptibly risen. We fled before we, too, should have to face the knife and the basket.

My prophetic soul must have been off duty one mild spring day at dusk, in the Bois de Vincennes twenty-old years ago, when our group of young people out for a tramp, heard a noise like a fire-engine behind us and presently, around a turn, came a kind of victoria, perched high on its wheels like a spider, moving fast—at least fifteen miles an hour—without horses, but with an unconscionable trail of smoke and steam and smell and sparks of fire. With the light insouciance of youth we marked it for a "horseless carriage," without recognizing the portent—that in the bowels of that machine lurked Revolution, and change of much we held most dear in charm and character.

In those days, every morning at a certain hour—shall we say, nine o'clock—I was awakened by the musical call of the sardine woman, "Sardines de Nantes, sardines nouvelles!" which ended on a rising and sustained inflection; then I'd get up, and go down to the crèmerie on the Boulevard St. Germain for breakfast. Now her sweet old cry would be drowned out by the blast of the motor horns, celebrating the advance of progress. And progress has improved the crèmerie away.

There seem to be many more people about, in the Latin Quarter, even now, at midnight, than there used to be. The old leisurely spirit seems to have passed, and the few strolling folk of other days have given place to quite a throng, especially along the Boulevard St. Germain, where the character of the shops has changed, and where many women trot briskly from stall to stall with their marketing nets. And in the old Marché St. Germain they have changed the courtyard, and moved the fountain over to one side, and in other ways broken the heart of the musketeer who comes back to renew old impressions.

The questing musketeer misses the old coaches with their hats of white patent leather—hats one had supposed were so firmly fixed on the heads of their weavers, so completely a part of the social fabric that nothing could remove them, not even an acte législatif. Here and there is a sapin—with a taximeter attached—driven by a melancholy old bird in a black topper. But it is not the same thing; one longs for the shiny white leather,
and the dirty fawn colored coat with the enormous buttons.

* * *

Along the Seine at night all the old charm, all the old mystery, comes back. The lights are reflected in the river as of yore; dim shapes are to be seen moving down on the ports, which one may permit to figure in the imagination as the simple bourgeois about to be assomné by the stalking Apache. The bookstalls are all shut and padlocked for the night. Here and there a couple of workmen sit on the parapet and chat quietly. A pair of sergents de ville pass with their hands clasped idly behind them. And here and there, in the darker places, furtive forms slip quickly from shadow to shadow.

* * *

Strolling back across the Pont Royal after an exquisite luncheon at the old Foyot, in the full light of mid-afternoon, we see a man in a boat maneuvering something toward him with an oar. Presently he bends and seems to tie it to the stern; he washes his hands overside—significant gesture—and pulls for the quai. Another joins him and together they get the poor flotsam to the bank and lug it up the steps. Its arms and shoulders have stiffened into one last, supreme shrug. Even from where we stand I can see that God's image is quite effaced and only an amorphous horror remains.

Many people have paused along the parapets and others come running. We go away. Requiescat!

Fontainebleau.

The first time we visited Fontainebleau was on a soft grey day in winter. There were no visitors or foreigners about except our little party of three, and we were turned loose in the Château to browse as we would. This time it is the noon of a summer day, hot in a searching sun that is rather pitiless to the old building and the park. Not a shred of mystery nor of romance, no softening veil anywhere. And is it the passage of time, the critical, appraising eyes of vingt ans après, that makes most of the interiors seem rather cheap and tawdry, or is it this same searching light of midsummer? August is notoriously unkind; it is so to New York; it is so to Paris; and the wonderful forest down here, parched in the great heats of this year, shows sadly where its hot hand has passed.

Barbizon.

The inevitable has happened to Barbizon. It is no longer the quiet place of pilgrimage, the simple and friendly village where the School of 1830 took refuge from the cost and complications of living in Paris, but a tourist-ridden place where Millet and Rousseau and the rest are exploited for present profit. To be sure,
EARLY MORNING ON THE SEINE
IN BARBIZON
PIAZZA MERCANTE—MILAN

we were there on a Sunday, and a good many people were making holiday. But the evidences were everywhere, in picture-post-card shops, and the indifference of the inn servants; a large sign on the Bas Bréau that has sheltered so many artists of note, calls attention to the circumstance that Stevenson wrote Forest Notes in that hotel; and the tablets, too, affixed to the houses, which probably had a reverent purpose in the beginning, seem, in the general atmosphere of exploitation, to be a part of the unbeautiful spirit which seeks to make a profit out of the memory of these great departed, of the men who were denied the daily crust when they lived and worked here.

But there is something gallant and splendid in the struggle they made, and the thought of their ultimate victory, even when they had already passed into the Great Indifference, comforts the sensitive pilgrim to the scene of their labors.

And if one leaves the village street with the tram tracks in it, and following a lane between some old and unbedizened houses, comes out into the fields and the great plain of Barbizon, all the vulgar and ugly exploitation drops away; and in these vast spaces of plain and sky one may penetrate a little way into the secret of the essential bigness of Millet.

Paris to Lucerne.

Moving across France on a day when rain impended, it seemed to me that the clouds were shepherded by a different hand from that which models the cloud shapes of our eastern states in America. Strange forms and combinations of forms and a predominance of a queer dull violet, all new to my eyes, with reflections of yellow in the lighter parts, and glimpses between of a veiled blue of a peculiar opacity and remoteness, made some of the elements of a new heaven; and the wide fields of Champagne, where they were gathering a golden and abundant harvest, a new earth.

Bellagio.

The bedroom I have in this old Villa, now a hotel, was evidently the chapel. They have built a partition across the shallow segmental apse and made a bathroom of it, in response to the incomprehensible but profitable demand of the forestière for the means of lustration. From the vault above, God the Father, in fresco, represented as an elderly gentleman with long whiskers blowing violently about his head and surrounded by mature and sophisticated-looking cherubs, presides over my matutinal ablutions. They have very obligingly cut a semi-circular opening through the partition at the spring of
the arch, and, my bed being exactly opposite, I have an uneasy sense of surveillance of a very direct and personal sort while I slumber.

**Milan to Venice.**

The difference between travel by train and travel by motor car is far more pronounced in Italy than in America. The one may be roughly described as that between Purgatory and Heaven; the other, between Heaven and the lowest circle of Hell, what with the dirt and the delays, the heat and the crowding; for in this year of grace an apparent desire to travel for the sake of movement seems to have seized all classes of the populations of Italy and France; and even the first class carriages, once sacred to English, Americans, and royalty, are uncomfortably well patronized. Impoverished France and poverty-stricken Italy are travelling—first class whenever possible. The carriages are about the same as they were twenty-five years ago; just about as dirty, the so-called sanitary arrangements just as unspeakably impossible for anything above the grade of pig. The war, upon which one is charitably inclined to lay the burden of all shortcomings, is not to blame; the Latins simply do not know what cleanliness is. And they have not the faintest idea how to run railroads.

There is a fast express train between Milan and Venice to which is attached an “observation car.” For the magnificent sum of thirty lire each—one dollar and a half at the then current rate of exchange—we secured places in this car de luxe, a vehicle that had arched the eyebrows and cast up the eyes of the young man at Cook’s. Elijah’s chariot itself could not have elicited more admiring awe. We found a kind of chair-car, moderately well appointed, except that there was not a drop of water aboard to drink, nor a water glass to drink it from if it had been there; and the spirit of democracy, of which one notes a distinct increase in Italy, was manifested by the installation of one roller towel of more than doubtful lineage. As for the other items of convenience—just as usual, just as impossible, on one of the important trains of the national system and on a car evidently regarded as a miracle of luxury and convenience. Besides ourselves, and a man of the usual begrimed and slovenly type of Italian trainman who acted in a vague way as a sort of porter, not a soul in the car; we had it all to ourselves, this splendor. At the stations, groups would form on the platforms to stare at us and the marvels of the osservazione; girls in their eternal pairs would make errands to our end of the train and furtively scan our magnificence; gilded youths would stroll by displaying an elaborate indifference which did not deceive us. And all for a mere decent-like Pullman. Verily the simplicity of this people is beyond words. If they could have but seen a typical George in his spotless uniform and gold buttons, standing at the car steps, they would have swooned away.

Twenty-odd years ago, in the last week of November, an icy fog made Venetia and Lombardy almost invisible, and one could claim to have seen only the ground floor of Northern Italy; all the upperworks disappeared in
the chilly envelope; I caught a fearful cold in Verona, had an immense circular cloak as thick as a board made for me overnight, and hurried north to Paris where I hoped to find it warmer—and did—or at least die among friends. But the day of this our regal progress in the osservazione was a wonderful day in late August, with a sky like that in a Francia, the Alps stepping delicately down to the plain with lovely lakes at their feet. It was all too beautiful to be possible, and I could not believe that anyone could be so utterly miserable as I was when I passed here before.

One change is observable in all the old towns of the Veneto, Lombardy, and the Emilia; they are all ringed about with factory chimneys. There is the old familiar nucleus of Duomo and campanile, and Santa This and Santo That; but all around are new industrial suburbs whose many chimneys compete with the old towers of the town and quite ruin the old compositions. Italy is paying a dreadful price for her industrial progress. I suppose a people may do what they like with their own; but there should be a law against it. Verona, Vicenza, Padova, Parma, Piacenza,—how one loves to say them over—all these towns give the impression of being in a state of siege, the enemy Progress encamped about them, the muzzles of his artillery pointing to heaven belching smoke and flame, and the feeble old cities armed only with charm and beauty. I wonder how long they will hold out! The cry is forced from us: Why must progress be so young and sharp and ugly? Why must beauty be so old and dirty? We do not find an answer in the eternally beautiful light of this late afternoon, flooding the foothills in a warm violet glory dusted over with motes of gold. Nor in the old, old waters which reflect the eternally renewed miracle of the sunset as we draw near to Venice.

Siena.

Out of our window, up to the left, the vast fabric of the Cathedral stretches along the chine of the hill; lower down and to the right, across the valley of the Fonte Branda rises the bare brick mass of S. Domenico. Just in front of us, across a picturesque huddle of roofs and chimney tops, there is a little belfry, two arches below, one above, with a bell in each. The top bell is shaped like a huge cow-bell and sounds as though the grandmother of all cows were coming home; the other two are small and sweet and mellow, and always ring first followed by the harsh clangor of the cow-bell. Pulled by some hand unseen, they seem magically to ring themselves.

Siena to Genoa.

Three hundred kilometers before us. The Cathedral and all the familiar rooftops blotted out by a dense envelope of fog. Fog drifting through the streets as we sound a warning horn on our way out of the city; dim forms of white oxen, high carts with half-seen groups of men in them; fog blurring the wind-shield, blurring one's glasses, beading on face and clothing, cool and clean and fresh. All this instead of the sight of Siena we were to have had as we slipped swiftly down her hills; but of her, not even a rosy glow through the white curtain. Down through oak groves, the mist thinning, the hills more gentle, into the plain of the Arno, flat and ugly hereabout. White, clayey roads, full of ruts. Pisa. The once-seen curve of the embanked Arno and the tone of the town, a tawny yellow, as familiar as though seen yesterday. The Cathedral, the Baptistery, the Leaning Tower in its perpetual genuflexion, in their lonely, unkempt, grassy corner.
On the road again, down toward Viareggio and the sea, through a pineta of great extent. The fog had given way to sunlight long before, then to the diffused light of a white sky, and at last to low clouds, and rain far and wide over the pine woods, shrouding their aisles in silver veils and filling the air and the spirit with the balm of their perfume.

Spezia; and a poor luncheon. A strong wind ruffling the gulf—for one of us the first sight of Mediterranean waters. Out of the town and up violently climbing roads, zigzagging up the mountains behind the city, the clouds heavier than ever now, but no rain. Up and up, the road flung in great loops along the flanks of the hills, the valleys filled with boiling clouds, and above and beyond them, apparently suspended in mid-air, like a silver shield, the sea. Up and still up into cloudland itself. Now and again a breeze tears a hole in the mist and we see valley bottoms with streams and little homesteads, miles away and below. Blacker and blacker at two in the afternoon, the road, invisible twenty feet beyond the car, winding and twisting around the shoulders of hills, a bottomless gulf to the left. A huge bulk looms up ahead—two diligenzie filled with country folk making holiday; "Buon viaggio! Buon viaggio!" "Addio, ragazze!" Giggles follow us. Down, down through the murk. Around a sharp turn. "Heugh! Heugh!" A string of carts with immense poles trailing behind and projecting far over the horses' heads. The carters beat the horses over against the cliff-side. We duck under the poles. Down and down, the clouds thinning, the road faintly visible now for a hundred yards. Whew! We find ourselves braced like stakes against the foot-rail; we relax; and one of us uncurls his feet.

The rushing air, the reaction from the strain of careering around mountain tops through the clouds, conspire to reduce us to a delicious drowsiness. "Ferma!" Throw in the brake! Lost in these hills, a little local customs house. No town, no village visible. "Have the Signori anything to declare?" "Nothing." "Behold a bottle of wine!" "The officer will observe that it is half consumed; one must quench the thirst when travelling." "The baggages of the Signori! They are closed!" "Yes, we always keep them closed; like that the dust enters not." "It will be two lire." "Two lire for what?" "Because the baggages are closed!" We seem to have discovered a novel excuse for the universal graft. "Be tranquil, Signore, they will be returned to the Signori, laggiù." The functionary retires to his little hut, where he is visible for what seems like hours, painfully filling out papers; at last the sand is dusted over them and he emerges, waving the papers gently. "Ecco, Signori! Due lire. Grazie, Signori, they will be returned to the Signor, laggiù. Addio, Signori!" "Avanti! Now what on earth—!" Two miles farther on—"Ferma!" This must be laggiù. It is. The paper is produced. "Behold the due lire of the Signori." "Grazie!" "Niente, niente!" "Avanti! Meccanista, can you tell us what all that means? Why do they separate us from ten cents American for five minutes if we motor with our baggage closed?" "Signore, non so. E molto misterioso. I understand nothing!" "Nor do we others. Avanti!" Many minutes, precious in these darkling hours, wasted in that passion for making out papers which consumes the Latin races.

Gathering dusk followed by misty moonlight and, suddenly, the sea! We wind around headlands, the gentle waves lapping below us on the rocks which are now black, now silver, as the road turns. A succession of stage settings—half ruined hut, boat drawn up, moonlight drenching the scene.

Unmistakable suburban indications. Presently, cobbles, ruts, tramcar lines, street lights.—Genoa! We drive through interminable streets to the extreme west of the city, where, twinkling high above us, beckon the lights that mean bath, dinner, and at last, sleep.

THE PLAIN OF BARBIZON

282
Mr. Hilaire Belloc has shown that he has a peculiar knowledge of architecture, unusual even amongst men of such high intellectual capacity as himself. In his recent address to the Architectural Association on “The probable effect on Architecture of the decline in our Civilization” he gave evidence of powers of analysis and acquaintance with the technique of construction which made his hearers feel that they would gladly listen to his impressions and criticisms of individual buildings. As it was, he was obliged to confine himself to the strict letter of his subject; it was noticeable, however, in the discussion which ensued on the completion of his paper, that his architect auditors were not equally successful in this respect.

Mr. Belloc did not make a definite assertion that our civilization was declining, but he certainly inferred it. He believes that one of the unerring symptoms of decline is the presence of the wrong people in high places, with resulting misrule and chaos which reacts on the nation and its architecture. That such a state of affairs exists in Europe today was evidently his premise, but nobody asked him whether America was in like condition.

Decadence in our architecture is to follow the decline in our social condition. There will be reactions and periods of architectural achievement, but the general tendency will be downwards. The first step, already beginning to manifest itself, is failure to attain beauty of proportion and scale. Lacking power to attain these, architects will fall back on mere bigness of size—the cult of the Kolossal. During this period construction will show ingenuity and resourcefulness, but shoddy workmanship and the gradual disappearance of the pride and knowledge of craftsmanship will counteract this advantage. The tendency will be to build large buildings such as apartment houses, on simple lines, to bring in good commercial return. Rooms will be small, and short spans permitting the cheapest kind of construction will be common. Gradually, as the level of good workmanship declines, buildings will become smaller and more utilitarian. In the same way as the Romans in their decline gradually lost their power to construct in the manner and scale found in such buildings as the Baths of Constantine, so will History repeat itself along parallel lines in the future. Mr. Belloc was asked whether good architecture and the cult of beauty could not arrest the decline of civilization. He replied that beauty in itself was always an influence for good, but that in itself it was insufficient. What would be required would be a widespread cultivation of that same spirit and endeavor which amongst architects makes for good building.

Needless to say there are many who disagree with Mr. Belloc. Probably there never was a time when the younger generation of architects felt more confidence than they do today that their efforts lie along the lines of improvement rather than decline. And though Mr. Belloc has French blood in his veins, he is probably
sufficiently an Englishman to have acquired the characteristic vein of pessimism.

It is interesting to note that the Society of Architects has made an important innovation in the matter of architectural examinations for admission. Instead of obliging candidates to sit for examinations in the usual way, the papers of questions are sent to their homes, and candidates are allowed to consult any books or works of reference which they may desire. Both in design and in technical questions, it is felt that this method is the one which an architect actually follows in practice, and that the system of cramming and memorizing which the average examination entails is very defective.

An oral examination satisfies the examiners as to whether the candidates have really acquired the knowledge which their papers evidence, and the system has worked remarkably well.

The standard required for the Associateship of the R. I. B. A. and Membership of the Society of Architects is about equal, but there is no doubt that under the scheme of the Special War Examinations, which are very easy, many men have slipped into the Associateship who are barely qualified for it by their training. The privilege of these "War Specials" ceases however in December of this year, and it is probable that the ordinary Final Examinations will be increased in severity.

A good deal of interest has been evoked by a Competition held by the R. I. B. A. for a Design for a Street Facade in Color. Prizes amounting to $1,000 were offered by an anonymous donor, and there was to be a strong jury consisting of such men as Mr. T. E. Collcutt, Sir Edwin Lutyens, Mr. Walcot, Professor Moira, and Mr. Halsey Ricardo. Actually we understand that only Mr. Collcutt and Professor Moira were able to attend.

The design was for an office building with five stories and a frontage of 50 feet. Terra-cotta, tiles, marble, granite, and copper plates were amongst the materials suggested to candidates, but brick was banned.

The results were in the main disappointing, and went to show that the most successful use of color lay in its function of providing accents and contrast to broad masses of low tones. The winning design was commonplace in the manner of terra-cotta buildings popular about 25 years ago, and the color treatment of green stripes with blue accents in the shape of panels under the windows was not in advance of Mr. Collcutt's own experiments in that direction as exemplified in such buildings as the Savoy Hotel and the block of flats at Hamilton Place adjacent to Hyde Park Corner.

There is plenty of color in London already, although it is pitched in low tones. What seem to be required are small concentrations of more brilliant color which will provide the element of contrast and sharpen the general key. The touch of Della Robbia blue on the Loggia of the Spedale Degli Innocenti in Florence gives an inkling of pleasant possibilities in this direction.
Four Gargoyles

*After the Etchings by JOHN TAYLOR ARMS*

Amiens
AMIENS

John Taylor Arms
Amiens
John Taylor Arms
Ponte's and Pontists

A pontist, as one gathers from Mr. Sparrow, is one who loves bridges and not one who builds them, as the etymologist might at first opine. The dictionary being silent on the word, one might of course raise a philological issue, but the intent is too clear and the ancestral lineage of the word too pure to encourage any save the most querulous. Not so, perhaps, with some of those who have looked long upon bridges and have loved them well, when Mr. Sparrow traces their growth. What he has to say may all be true. Perhaps it is to the acquisitive instincts of men that we owe bridges, their arched and vaulted waterways, the swirling current about their buttressed piers, the mirrored curves that come with placid waters. Were it not for war, the love of conquest, the passion for acquiring things, we might have yet had no bridges to this very day, and should still be fording at shallow places, or ferrying at the deeper ones. At least we feel that Mr. Sparrow would think so. For warriors first built bridges for an army, even as warriors have destroyed them by hundreds within the memory of Mr. Sparrow's readers. These splendid structures that Mr. Brangwyn has drawn for The Book of Bridges are not of poetic mould. The gentle dwellers in pastoral lands or the more rugged husbandman who battled with nature for his crops and his herds did not produce these majestic piers and arches. Nor were they born of commerce and industry except as they followed hard upon the heels of war. Nor were architects and engineers contending for the glory of adding a mite to some city's portion of what we call civic art. Out of the stern rigors of war and conquest, of bitter defense, of long cherished dreams of kings and emperors, out of the very despair of the cries of the slaves that were to be dragged to market and sold, arose the early bridges that we now regard with envy, so picturesquely do they or their ruins seem to speak a glory that is no more.

Yet in many a way and with a difference that marks the dramatic from the poetic, the bridge over the Perkiomen, of which, since the two sides are different, two illustrations are here presented, seems to tell its more peaceful tale. At least, there are those who will wish to think so, even though they might admit that if history were searched, some scheme of conquest would have been found lurking well in the rear of the bridging of the Perkiomen. We might be certain that fat land

THE BRIDGE OVER THE PERKIOMEN RIVER, COLLEGEVILLE, PENNSYLVANIA

289
Bridie watmirea lounda in the ear of our 29. 

Fred Conrad, Sam Magista, Could Bover, James Dean, and Henry Scheer, Compan Gip, John Puoh, Samuel Beardon, Burk, and Henry Priest, Undertaker, flefsonny, George Bover, Carpenter, John Lewis, Archites, and Superintendant.

THE BRIDGE OVER THE PERKIOMEN RIVER, COLLEGEVILLE, PENNSYLVANIA.
THE DIVISION OF LABOR

Increments fell into the pockets of some lucky proprietors, for example, and little prowling about would be necessary to discover such a blot on the escutcheon. But if one stands upon the bridge and examines the oval tablet, of which an illustration is also given, these things surely would not intrude their unpleasant significance. Instead we should take a real delight in the quaint phrase which informs us that Henry Priest was the Undertaker of Masonry and that George Boyer was the Carpenter. We should feel that they had been on something better than commercial terms with John Lewis, Architect and Superintendent, and that all of them had known a craftsman's joy. No thought of a ravaging army here intrudes upon our reflections. No royal conqueror dreamed of marching his invading army over the Perkiomen in 1798. We feel aware, instead, of that peaceful expansion of town and country which is perhaps only an idealization of what we wish to believe and which never was. We sense the then apparent need for a bridge as a means of easing the distance between families and friends, perhaps between town and city, or the farmer and his market. This very bridge, indeed, may have replaced an earlier one; I do not know. But quite aside from the fact that there still existed, at least we must so believe, a curiosity to know what architect could design so pleasant a structure, and that masons and carpenters were still practising a calling not beneath social dignity, we may also feel, if we care to pick a little deeply, that the manner of doing things is, in the end, more important than the thing done. A statement which of course has not the slightest chance to pass current, and which it was idle to utter, except that Mr. Sparrow and his book provoke a mild defense of the Undertakers of Masonry, the Carpenters, and the Architects and Superintendents, who, I am quite certain, would have built beautiful bridges, and, most important of all, would still be building them if they had been left free to work out their part in an unacquisitive scheme of things.

C. H. W.

The Division of Labor

By FREDERICK LEE ACKERMAN

"The division of labor is the immediate cause of opulence." The importance which Adam Smith attached to this observation is suggested by its use in the opening argument in "The Wealth of Nations." Upon the organization of production around a well ordered and balanced scheme with respect to the division of labor hangs, according to his view, the economic well-being and the progress of society. But the organization of such a scheme of production, is not, as he conceives it, the result of planned, premeditate action—not altogether. For he argues that such a division of labor as had developed up to the time when he formulated his economic theory arose out of the "propensity (of human nature) to truck, barter and exchange one thing for another." His point of departure, in accounting for the economic scheme in which he found himself, was this "propensity," he was not concerned with how men had come by it. It had been given to men as a natural endowment with a view to the welfare of human society. Such a view was in harmony with the animistic outlook which underlay the speculations of economic writers of that time. (1)

But we are not here primarily concerned with the question of how it came to pass that men resorted to the division of labor in producing goods. Adam Smith and his opinion is recalled simply to indicate that the present point of view with respect to specialization is not unlike that with respect to the division of labor which took definite shape some one hundred and fifty years ago. Wherein the present point of view differs from that so well defined by Adam Smith will be pointed out later.

This note is confined to a simpler question—the shifting lines or boundaries which set off one division of labor from another as the same have been drawn under an ever changing process of production.

The Simplicity of Primitive Industry

Looking back over the centuries during which Western (European) civilization has come by its present characteristics, we note that the framework of its industrial organization has all the while been subject to a process of change. In early times, prior to the Middle Ages, production was a matter which hung upon the ability of the individual, or at most upon a very small group of individuals, to engage successfully in approximately the entire range of industrial activities required to maintain such a standard of living as then obtained. During this period the industrial framework was simple in the extreme; it was a case of one's being able to do whatever there was to be done. The Middle Ages reveals a more complex industrial structure in which, for the most part, the individual and the small self-supporting group of the earlier period have lost in independence in that they became dependent upon the operation of a larger economic unit, the town. Production proceeds in response to a division of labor, so that the individual is no longer called upon to function in so great a diversity of ways. Still later periods reveal a still more complex industrial and economic structure with larger grouping. The town loses in independence and becomes dependent upon still larger units—the State and the Nation. This changing process is referred to ordinarily as a record of progress. It is here beside the point to attempt to rate it; for our purpose it may be regarded simply as a process of change. It is a record of growth, but it is equally a record of subsequent decay.

So we may return to the matter of considering this.

1 See "The Preconceptions of Economic Science II" in "The Place of Science in Modern Civilization" by Thorstein Veblen.
Recalling the industrial situation of, say, the eleventh century we find that the subject had received some attention. "A picture of the conditions which obtained in England during this period is found in the Colloquium of Archbishop Aelfric, written for the purpose of instructing English boys in the Latin tongue. It is a dialogue between the teacher and a number of men engaged in work of different kinds. It gives a vivid picture of the day's work of the plowman and his boy, with all they had to do, as well as the duties of the oxherd, who tended the cattle at night in the pasture. We read also of the King's hunter, who took game with his nets and also hunted with his dogs, and who was provided with food and clothing and a horse by his royal master. There was the fisherman, too, who fished in the rivers and found a good market in the towns, but who rarely went on the sea and was too timorous to try to catch a whale. There was the wright, who was skilled in the making of various tools and the like. There was the saltmaker, the baker, and the cook follow; a group of artisans is next introduced, and the question is proposed, which is the best of crafts? The reply is tillage, since the plowman feeds us all. But the smith objects that there were such facilities for exchange, that the necessary machinery, they could, when they exerted themselves make among them about twelve pounds of pins a day. (3) That is to say each person therefore produced four thousand eight hundred pins per day.

The Eighteenth Century

But this eleventh century state of affairs is quite a different matter from that which shows up when we move on to the end of the eighteenth century when Adam Smith set out to take account of things in "The Wealth of Nations." The intervening centuries witnessed the rise of the guilds and also their decay; a system of production, and exchange, which we now refer to as "handicraft and petty trade" gave ground to the Mercantilists. The machine had been invented; the framework of the old industrial order beginning to give way. So that when Adam Smith refers to the "division of labor" the term no longer signifies the activities of the farmer, the smith, the fisherman nor the builder. Precisely what meaning it then carried he makes clear by recourse to an illustration drawn from his own time.

"A workman not educated in this business (which the division of labor has rendered a distinct trade), not acquainted with the use of the machinery employed in it (to the inventions of which the same division of labor has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin a day, and certainly not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straightens it, a third cuts it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business, to whiten the pin is another; it is even a trade in itself to put them into a paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. In some others, they are manufactured by a small factory of this kind where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves make among them about twelve pounds of pins a day." (4) That is to say each person therefore produced four thousand eight hundred pins per day.

The Twentieth Century

On the face of it, the industrial conditions which he describes would seem to approximate the conditions of the present. As between the conditions of then and now there are certain points of difference to be noted. Adam Smith made reference to the use of tools and machines, as he certainly should, since they had grown to be essential factors in production. But it must be noted that the machines to which he refers were crude; they counted for little in comparison with those of our day. So this point of emphasis with respect to the important factor making for a large volume of production falls upon the workman in the case. He is all for the rapidly developing system based upon an even more minute sub-division of labor; for out of a sub-division of labor come greater skill and dexterity. Skill, dexterity and judgment plus sub-division of labor constitute the essential factors which make for a large volume of production.

To express such a view of the industrial process was but to express a commonplace of the time. In the im-

2See: "Growth of English Industry and Commerce" by Cunningham. Early and Middle Ages, Page 94.
THE DIVISION OF LABOR

mediate background was the era of handicraft still shaping men's views. A greater volume of production was to be expected from greater skill, dexterity and judgment. This period differed, with respect to the division of labor, from what had preceded in that skill and judgment were now applied to a process the scope of which was so confined as to make possible the development of something approximating perfection in the technique of the process. The machine was conceived as a tool the value of which turned upon the skill and dexterity of the workman who used it. The sweep of industry had broadened; but the frontiers of experience had narrowed, confining the activities and interests of the individual to still narrower fields.

Some one hundred and fifty years have passed since Adam Smith took account of the situation and explained the working of the industrial system in hedonistic terms. Since that time, the Mercantile system of economy has given ground to Capitalism and Credit Economy. And the machine has taken effect. Out of the change in the system of economy and the astonishing development of the machine, there are now flowing streams of consequences of an altogether revolutionary character, with respect to the state of the industrial arts and the system of institutions which make up the cultural scheme. Of these consequences here we may touch upon but one only—the resulting machine process and the resulting effect upon the division of labor.

A Modern Actuality

For this purpose we may pass by the theoretical formulation of the economists and the engineers. The realistic purposes which now serve to guide development of the machine process have been clearly set forth by Henry Ford and Samuel Crothers. (*) They refer to the division of labor with the same emphasis, as to its importance, as did Adam Smith. The illustration used is the production of the Ford car. The Ford car is a more complicated affair than a pin. A pin would now be made by a machine. It is unfortunate that sentences only may be quoted; but the few which follow will serve to indicate the present point of view with respect to the ideas associated with the "division of labor." In this issue, under the sub-caption, "Explaining my principles on which production is built up, and the relations of machines and men," we find: "In the beginning we tried to get machinists. As the necessity for production increased it not only became apparent that not enough machinists were to be had, but also that skilled men were not necessary in production... Our foundry used to be much like other foundries. When we cast the first "Model T" cylinders in 1910, everything in the place was done by hand; shovels and wheelbarrows abounded. The work was then either skilled or unskilled; we had molders and we had laborers. Now we have about five per cent of thoroughly skilled molders and core setters, but the remaining ninety-five per cent are unskilled; or, to put it more accurately, must be skilled in exactly one operation, which the most stupid man can learn within two days. The molding is all done by machinery... Some men do only one or two small operations, others do more. The man who places a part does not fasten it—the part may not be fully in place until several operations later. The man who puts in a bolt does not put on the nut; the man who puts on the nut does not tighten it... The net result of the application of these principles is the reduction of the necessity for thought on the part of the worker and the reduction of his movements to a minimum. He does as nearly as possible only one thing with only one movement."

These observations, it is true, express the point of the owner of the plant; but they express more. These and other similar observations in the articles now pass as common sense among producers, production engineers and those who deal with the matter of large scale production. The point of view is approximately that of the run of business men and those who give thought to the matter.

Here and there in the articles the outlook with respect to how production should be organized, in the ideal case, proceeds somewhat beyond the frontiers of popular opinion on this head. But no thought is advanced in the articles which is likely to appear as an innovation or disturb the peace of mind of the readers of McClure's magazine.

The Decreasing Demand on Skill and Judgment

Evidently we have passed that point in the ever changing processes of production where the skill and judgment of the workman serve as the axis upon which the industrial system turns. It is not that skill and judgment have ceased to count—they still count for much in certain lines of production, as, for example, in the erection of buildings, farming and the like—it is rather that dexterity now stands as the only qualification of importance, while skill and judgment are qualities which have now come to be viewed as good and serviceable to the operation of the industrial system only in so far as these are necessary. That is to say, skill and judgment have come to be no more than qualities to be made use of pending the further development of the machine to such a point of mechanical perfection as to admit dispensing with them altogether.

Naturally the question intrudes; what is due to happen to those who work under this newly conceived ideal condition wherein the scope of endeavor and the sweep of industrial experiences is confined as closely as may be to "the doing of only one thing with a single movement" and where "skilled men are not necessary in production"? A multitude of other related questions follow. But the point of interest here is not what effect this new regime of machine production is likely to have upon the workman; it is rather what is likely to happen to the machine process itself as we gradually approach this "ideal" condition.

That is to say, what effect will the decay of skill, which may be assumed to follow consequent upon the general application of this point of view—what effect will this

(*) See "My Life and Work" by Henry Ford and Samuel Crothers in the current issues of McClure's Magazine.
have upon the development of the machine process itself? Will the decay of skill on the part of the workman result, in due time, in the decay of the machine process?

This question intrudes for a variety of reasons, but primarily by virtue of the condition that it would seem that it was out of the era of handicraft, and consequent upon it, that the machine was developed and the machine process took shape. That the machine and the machine process swept away the system of handicraft has long been plain—but it has not been equally plain that the machine process was making for the decay of skill and judgment of those engaged in it.

Objection may be raised with respect to this observation; and it will no doubt be pointed out that one of the chief characteristics of the machine made product is its perfection as compared with hand made articles. But this perfection may be viewed as the outcome of machine process; it is not necessarily related to the skill, dexterity and judgment of the workmen who tend the machines. But what is likely to happen is a matter of speculation. So that we will pass over this phase of the matter after pointing to the magnitude of the change that has taken place since the days when primitive man ceased his fumbling and developed a simple system of handicraft which supplied his needs by reason of his resourcefulness and skill in a fairly wide range of activities, and the present when the industrial worker's experiences may be limited to such a simple operation as the tightening of a nut.

In a factory such as referred to "the length of time required to develop proficiency in the various occupations (sic) is about as follows: forty-three per cent of the jobs require from one day to one week; six per cent require from one to two weeks; fourteen per cent require one month to a year; one per cent require from one to six years. The last jobs require great skill—as in tool making and die sinking." From this we see how it is that some of the most complex products of industry may be produced by a force of workmen ninety-nine per cent of which may acquire the necessary qualities of skill, dexterity and judgment in less time than it takes to make a good farm hand. In fact proficiency in eighty-five per cent of the occupations where handicraft processes prevail, that no training is required. Which brings us to a point of immediate interest to architects, engineers and builders. In relation to the automatic performances of something like ninety-five per cent of those engaged in production carried on along lines as in the Ford plant, the farmhand or the workman in the building trades shows up as a highly skilled artisan who reaches his position as the result of years of training. The ease and the slight loss of time required to develop proficiency in an automatic activity stand in contrast with the years which must be passed in training to produce the plumber, the carpenter, the mason, or the plasterer. So that as it works out the modern process of production as a whole now falls into two types of industrial process which stand in a peculiar competitive relation to each other. These two processes, machine and handicraft, run at different rates of speed so to speak, and the case of entry into the one stands as a barrier to entry into the other. Obviously to enter the building trades one must devote some years of training. This requirement would seem to demand, as an essential condition, that those occupations which so require a long period of training would insure better pay or more steady employment. On the face of it, the bare invitation to the young man, and the provision of educational facilities would hardly seem sufficient to insure his entry. Something more substantial should be offered than an opportunity to sacrifice some years in training when the same might be avoided by taking a job in a plant where all that is required is dexterity—a qualification belonging to youth.

What has been said above is not to be taken as a remark derogatory to the machine process nor as an expression of a hope that we might well do away with it. The aim has been solely to point out that the various meanings attached to the "division of labor" have been variable in the course of the changing process of production; that in its latest phase it implies the avoidance of the use of skill and judgment; that the present situation is this latter condition is unavoidably one of stress as between highly developed machine industries and those that still remain of a handicraft nature; that the outcome of the aim to eliminate skill and judgment from the day's work in the case of the average man might conceivably lead to the decay of the process itself.

Mr. Thomas Hastings Receives the Royal Gold Medal of the Royal Institute of British Architects

As noted in our columns last month, Mr. Thomas Hastings was present at the General Meeting of the Royal Institute of British Architects in London, on 26 June last, and there received the Royal Gold Medal of that body. Mr. Paul Waterhouse, President of the R. I. B. A., in his address, after felicitating Mr. Hastings upon certain of his architectural accomplishments, said:

I am perfectly sure that the opening words of any reply which Mr. Hastings is good enough to give us tonight will be a modest disclaimer. He will say that we are asking our King to honor his epoch and his country, and that the allocation of this honor to his individual personality is a mere accident. Let him say so. He will not thereby shield himself from the direct attacks of our respectful homage, nor will he dilute or divert in any degree the enthusiasm with which we acclaim him as the man of the hour.

It is undeniably true that we are consciously applaud-
ing America of the twentieth century. But what of that? It is the architects of America who make American architecture, and in searching for a true and significant example of that group of creators we have—with very great, very careful deliberation—thrown our choice on Mr. Hastings. I think we will stand firm in support of our own judgment. Mr. Hastings can diffuse, as much as he pleases, our compliments among his able countrymen, so long as it is on his neck that the King's Gold Medal crosses the Atlantic, and so long as he is our most respectfully chosen ambassador.

The very fact that Mr. Hastings is surrounded in the States by confrères whose aims are his own, the very fact that there are others in his favored country who may rightly be classed as of Gold Medal rank, only enhances, I hope, the honor which we try to pay to him and through him to his colleagues, many of whom are men to whom his example, his instruction, and his rivalry have meant much.

I make no apology for being, by the accident of the Presidency, the man through whose hands the medal passes from its gracious giver to its distinguished recipient. Rather do I with complete immodesty rejoice that so great a piece of good luck falls in my way, for I have wanted, above many other wants, to stand face to face with an American and tell him exactly what I think of the present-day school of American design in architecture.

I believe, with a very profound belief, that it represents a most significant fact in the history of our art. I do not say, "of our age," but of that ageless company of centuries which, viewed from Art's point of view, stand not behind one another in series, but abreast. There is a reality called Eternity. Some define it as time with the beginning and the end removed. They define it falsely. It is the great Now. It lies with architects more than with other artists, it lies with artists more than with other men, to realize (and this is realization shared with religion) that the brotherhood of man has its extension forth and back in time no less than East and West in space.

This is not wandering on my part. I could make it plainer by detaining you with a history of civilization (if I were capable of it). I would sooner try to make it plain by talking about the United States.

There is much heretic talk of progress in architectural design. There is progress, of course; but there is much more evidence of the sham progress which is no friend of art at all. The horrible experiment to which a certain old-world country is submitting herself, the experiment of attempting an architecture "free from historic style," would be a nightmare to Europe and a grim menace to all lovers of the beautiful were there not a bright hope that choice of America—or shall I say rather by America's joyous submission to the golden chains in which we also labor?

In the name, Mr. Hastings, of our Gracious Patron, and as the spokesman of my brother architects of England, I transfer to you the greatest testimony we have to offer; and, in doing so, I thank you and your colleagues in America for the encouragement you give to our ancient art, and congratulate you with the warmest veneration on the fact that your line of thought, your line of work, and your spirit of achievement are the very spirit, work and thought that have for centuries bound into a timeless brotherhood the architects of Europe.

Mr. Thomas Hastings' Reply

While we Americans have inherited your language, and consequently have no right to complain, I must confess that on this occasion I find the English vocabulary quite inadequate—there are no words to express my grateful appreciation of the honor which His Gracious Majesty the King has conferred upon me. Realizing that it was prompted by the action of this time-honored Institute, I would like to feel that it is in recognition of such services as the profession in our country has rendered in the interest of contemporaneous architectural education. In all sincerity, I would rather believe that by example, I had in some way influenced others in the right direction than be conscious of individual success or feel that what I have done were worthy of your commendation. As you know, I believe we should return to follow and respect the tradition which obtained before the present modern
confusion, that we should be careful of the direction in which we work, and thoughtful of our influence upon future generations.

While the question of modernity is most important, it is after all the true inborn sense of beauty which assures the architect his success. Goethe said: "The Beautiful is a manifestation of secret laws of nature, which, but for this appearance, had been for ever concealed from us." The layman too frequently only superficially understands beauty in defining its attributes, as though it were a mere appeal to the emotions, a pleasure-giving luxury, or a refining influence. It is rather an organic vital provision of nature, manifestly a part of the order of the universe—divinely ordained for the specific purpose of promoting permanency in all things, and giving life and enthusiasm wherever it may find its resting place. It is, indeed, a force in life capable of stimulating the noblest endeavor, and capable of making virtue appeal to the senses and making truth endure. Nowhere is this so vividly illustrated as when we consider architectural design. The practising architect, if he continues, as he should, to be a draughtsman all his life, must realize that beauty of design and line build well in construction, and with greater economy and endurance than construction, which is mere engineering. All form and all design are the natural and legitimate outcome of the nature or purpose of the object to be made. The practical and the artistic are inseparable. There is beauty in nature because all nature is a practical problem well solved. The truly educated architect will never sacrifice the practical side of his problem. Some of the greatest economic as well as architectural calamities have been executed by so-called practical men with an experience mostly bad, and with no education.

The science of modern engineering has too frequently divorced the architect from many of the larger and more interesting so-called utilitarian problems of construction. Some of them are entirely and legitimately architectural problems, while in other cases the architect should collaborate with the engineer. There may be no question of decoration or ornament involved, but architecture and practically all construction should be inseparable. An earnest appeal should be made for this collaboration. Wax, so that the line of beauty is the result of perception; but just as nature is beautiful when fit to survive, so the great buildings and monuments of the past that have survived are beautiful in plan, form and proportion. It is really architecture and well-proportioned masonry versus engineering and iron, a comparatively new profession and a new material; each has its use, but they are not interchangeable. I believe that buildings have stood for centuries solely because their plans, as seen on paper, were so thoroughly artistic and beautiful.

We are told that the cell of the bee is built at that angle which gives the most strength with the least wax, so that the line of beauty is the result of perfect economy. Emerson realized the truth when he said it is a rule of largest application, true in a plant, true in a loaf of bread, that in the construction of any fabric or organism any real increase of fitness to its end is an increase of beauty.

We Americans too little realize that we really come to Europe in a large measure because of what man has done with art to beautify nature. As music is more beautiful than any merely natural sound, so nature is generally either greatly enhanced by the human interest when man has made his impress upon it, or it is cruelly and unnecessarily sacrificed.

Art and a proper artistic sense of the fitness of things completes the picture. When far away from civilization, surrounded by primeval nature, a man, if in his normal state of mind, soon longs for the warmth and color of fertile fields, the thrift of farms; he thinks of forests interwoven by winding roads or vistas intelligently conceived.
The pageantry of sea and sky, the starlit night, the rising or setting sun, the rugged mountains or deep crevices, the bewildering beauty of the flowers, can never awaken the same human emotions and sympathy as when with art they are made more beautiful—wedded to weather-beaten walls, the castle or the shrine, or the distant romantic village nestled in the crevice or perched on the mountain-side. I have said that I believe it to be a law of the universe that the forms of life that are fittest, to survive—indeed, the very universe itself—are beautiful in form and color, and that nature’s selections are beautifully expressed. Ugliness, deformity, and self-indulgence are synonymous. And so it is in every economy of life—what would survive must be beautifully expressed.

It is equally true that one trained in the understanding of beauty can more profoundly fathom the laws of nature than one who has neglected to develop this side of his education. Indeed, if the way of art is undertaken with philosophy and humility, the things that are divine, God in the universe, will I believe, be more clearly revealed to him, more impressively, more convincingly, than when approached by way of theological discussion or scientific research. And so in literature as in art, the subject matter must be expressed or presented with beauty in order to survive and firmly impress itself upon successive generations. It is the art in storytelling which gives real life and human interest to the characters, and which makes the fancy and imagination of the author outlive his own generation. Words may have color as full and luminous as may be found in any school of painting, and form as subtle and radiant as may be revealed in the art of the sculptor or the architect, and music as beautiful and melodious as a song. Truth or precept as well as fiction will only penetrate the human heart and demand respect and obedience when clothed in beauty.

The proverbs, the bywords of the ages, are only familiar truths beautifully expressed with forceful simplicity and precise epigram; even mathematics have a beauty of their own, and, while in some ways allied with beauty in art, both are different phases of what we might call generalized beauty. Every mathematical equation has a certain quality of beauty because it is orderly and complete in its visible expression of a truth. All the natural lines of stresses and strains in a solid are things of beauty, and every structure built to these true lines, ipso facto, is beautiful. Newton’s laws of motion, so simple, so fundamental, so inclusive in their scope, could only be enunciated with such elegance of expression to make them endure forever. The divine word of God as it has been revealed in any enduring philosophy or religion has always been enshrined in language immortal.

There is beauty everywhere, and there is no such thing as poverty if only we realize the universal ownership of beauty in nature and art. You may own the land, but not the landscape. You may have physical possession of a great picture or a building, but if they are really great the man who truly owns them is the man who most appreciates their beauty. In the light of this truth in written word, in painted canvas or chiselled stone, or in the harmonies and melodies of sound and in the beauty of nature all round, the happiest and richest man in the world is he who sees most and best understands nature’s laws as expressed in beauty.

**Biography**

Mr. Hastings was born in New York City, of American parents, in the year 1860. His grandfather, Thomas Hastings, was distinguished as a composer of sacred music. His father, the Reverend Thomas S. Hastings, an eminent Presbyterian divine, was for many years President of the Union Theological Seminary of New York City; his mother was a Miss de Groot, an American of Dutch and French parentage.

Mr. Hastings obtained his professional education at the Ecole des Beaux Arts, where he studied under the professorship of Jules André. He began his architectural career in the office of McKim, Mead and White.

Mr. Hastings is an Academician of the National Academy of Design, a member of the Academy of Arts and Letters, the Royal Vienna Association of Architects, and the Committee of Visitors to Columbia University (Architectural Department). He is Chevalier of the Legion of Honor; a Fellow of the American Institute of Architects; Chairman, Sardis Exploration Society Commission; President Beaux Arts Institute of Design. He was one of the founders of the Commission of Fine Arts, and is a Director in the Museum of French Art. He was one of the founders of the Architectural League of New York of which he has been President and several times Director.

**List of Mr. Hastings’ Principal Works**

New York Public Library, New York City; Carnegie Libraries, New York City; Layout of Baltimore, Maryland (Mt. Vernon Square and Civic Centre); Senate Office Building, Washington, D. C.; House of Representatives Office Building, Washington, D. C.; The Plaza at 59th Street and 5th Avenue, New York City; Century Theatre, New York City; Globe Theatre, New York City; Interior of the Metropolitan Opera House, New York City; Academic Halls for Cornell University, Ithaca, N. Y.; Portland (Maine) City Hall; Richmond County Court House, Staten Island, N. Y.; Richmond County Court House, Staten Island, N. Y.; Staten Island Terminal, New York; Manhattan Bridge over East River, New York; Administration Building, Carnegie Institute, Washington, D. C.; City Plan of Hartford, Conn.; Union Pacific Railroad Stations, North Platte, Nebraska, and Grand Island; United States Rubber Building, New York City; Cunard Steamship Company (Consulting Architect for New York Offices); office building Standard Oil Company of New York, New York City; Bank of Mexico, City of Mexico; one of six architects in collaboration on Panama-Pacific International Exposition, San Francisco, California; Industrial Town plan for United States Steel Corporation, Duluth, Minn.; Ponce de Leon Hotel, St. Augustine, Fla.; Knoedler Building, Fifth Avenue, New York City; National Amphitheatre, Arlington Cemetery, Washington, D. C.; Bryant Memorial, New York City; Yale Memorial Buildings, New Haven, Conn.; Princeton Battle Monument, Princeton, N. J.; City Hall Fountain Memorial, New York City; McKinley Monument, Buffalo, N. Y.; John Paul Jones Monument, Washington, D. C.; Lafayette Monument, Paris, France; Altar of Liberty and Victory Arch for the Mayor’s Committee for Homecoming Troops, New York City; War Memorial for Atlantic City, New Jersey; Centograph for Unknown Dead, Washington, D. C. (in course of construction); numerous important residences, various churches in different parts of the country, and a number of office buildings for private corporations.
Community Planning and Housing

CLARENCE S. STEIN, Associate Editor

What Happened to London?

The Committee on the Plan of New York and its Environs in its study of conditions in the Metropolitan district, we hope, will not lose sight of the fact that much light may be thrown on one's own problems by the experiences of other great cities. Some of the evidence submitted by the Garden Cities and Town-Planning Association to the Royal Commission on London Government applies as much to New York as to London. The Committee said in regard to Social and Economic Evils of Large Cities:

"Nothing is more difficult to resist than a proposal which offers immediate and visible advantages. 'Give us,' we say, 'what is sweet, and let the next generation deal with the bitter.' Londoners of today, as they gaze upon the illuminated map of the Underground Railway, are fain to admire an achievement, at which, as Frenchmen would say, they have 'assisted.' Cool in summer, and warm in winter, we travel from the central nucleus in half-a-dozen directions, rapidly, safely and cheaply. The Tubes, not so long since a novelty, have become a necessity, as a breakdown or strike makes painfully obvious. What more natural than that they should be extended still further in all directions, carrying passengers beyond Highgate, beyond Golders' Green, and beyond Clapham? Moreover, who will dare to oppose a scheme which promises to employ thousands of men now out of work and to feed their children, to allay industrial unrest and provide idle machines and shops with much-desired engineering orders? It would seem as if this were a game in which there are many prizes and no blanks. Such games are in general designed for the simple by those who are not so simple.

"As Londoners are suffering today from what their fathers did for them, they should think of the difficulties they in their turn are piling up for the next generation. London is already too large, its streets too narrow, its houses too close, its traffic too heavy, its population too much congested. These words were true of London 30, 40 or 50 years ago, before the Tubes were heard of. It was because London was already too large that part of its passenger traffic had to be carried underground. Instead of restricting the growth of the monster we constructed a labyrinthine world beneath her, which has in effect added to the built-up area above ground.

"It is clear that Tube extensions are not going to be made for nothing; the lifts are not going to pour forth nightly thousands of strap-hangers into uninhabited corners of Middlesex, Surrey and Essex. Tube extension means London extension. Wherever the Tubes go, and as far as they go, the speculative builder will follow. Around every new terminus will grow up a new dormitory. The planning of London's future will be taken out of her own hands, and whether she likes it or not, she will be forced to grow larger.

"There are, too, technical objections to the extension of Tubes under present conditions. By adding half-a-dozen stations contributory to the system the trains must carry more passengers. The crowding which has already reached its maximum of bearable discomfort will become a positive danger. Instead of being, as was intended, a passable alternative to travelling in the open air, Tube travel will become a twice-daily infliction, which none but the most hardy will undertake. The Underground Railway of late has been encouraging its passengers to think by putting before them in advertisements concise statements of its position. We make no apology for repeating one of their most effective posters:

Greater London's Development

Before the Underground drove its Railways out to Golders Green there was nothing but green fields. Now there is a considerable Town and a busy population. New values have been created which stand to the credit of the Underground, though others keep the cash.

"To carry the process of thought a little further, it may be added that new problems are being created which are left for solution to posterity."

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The National Municipal League has published a short and concise statement by Thomas Adams on "Modern City Planning, its Meaning and Methods" in which he offers a practical program of planning that should be of great help to those who direct the policy of the many cities and towns now going in for "Zoning" instead of fundamental planning. Zoning, Mr. Adams points out, cannot be carried out successfully excepting as part of a well studied plan. He says: "But no plan should be limited to 'zoning' and no 'zoning' should be done with the main object of stabilizing real estate values. A plan should increase real values and not stabilize unreal values based on speculation."

Of the Zoning experts he says: "The most intricate problems in city planning are probably those which are least popular and least spectacular. The 'zoning' plans which are now being prepared for many cities require less specialized knowledge than the other matters which need to be dealt with and may involve the suppression rather than the exercise of imagination. To a large extent they depend for their successful application on intimate local knowledge. The zoning expert may have acquired the knowledge to present his data in an intelligent form. He may know the arguments..."
to use to 'put it over' with the citizens and he may have collected information in other cities which enables him to give valuable advice regarding the many cases that require special treatment. On the whole, however, a plan that is limited to 'zoning' can be prepared by an intelligent city engineer with comparatively little expert assistance. But the planning of a city cannot be cut up into watertight compartments. If worthwhile results are desired a comprehensive plan must be worked out, so Mr. Adams outlines as order of study and work:

1. Reconnaissance survey of the city and surrounding region;
2. Tentative skeleton plan of the region based on the survey;
3. City survey;
4. Complete working plan of the city adapted to the law of the state or province.

A Zoning Primer

"A Zoning Primer" which has been brought out by Secretary Hoover's Advisory Committee for the purpose of boosting zoning, though it mentions the fact that zoning is a part of the general planning problem, lays stress mainly on its value as protector of individual property rights. The Primer says of "Technical Advice": "The practice of zoning is relatively new in America. We are feeling our way and must learn by experience. Those who have had experience tend to become expert, with broader knowledge of practices that are proving effective. These men are becoming gradually more skilled in the methods of getting at the essential facts of any local situation, and in the interpretation of those facts. If they possess insight and sane judgment, their advice becomes increasingly valuable."

Service—for What—and by Whom?

One outstanding fact in regard to the great housing activity of most of the European countries during the last few years is the admission of the failure of private initiative and the acceptance of housing as a public or social function. There is hardly a country at the other side of the Atlantic that is not giving financial assistance in the building of homes, not only in the form of loans, but outright bonuses. This money is not being spent for the profit of builders but for the welfare of the Community, for these governments are controlling to a much greater extent than in the past the type of home in which the people are to live. It looks as though the period when housing for working people was a business and nothing else had passed, as far as Europe is concerned.

Those who have to do with Government functions are beginning to acknowledge that this point of view must apply not only to housing but to every activity that

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*A Zoning Primer by The Advisory Committee on Zoning—Appointed by Secretary Hoover. Sold only by the Superintendent of Documents, Government Printing Office, Washington, D. C. has to do with the making of our cities. Daniel L. Turner, the Consulting Engineer of the New York Transit Commission, in writing of the fundamentals for transit planning, for cities concludes: "In short, city transit is a social problem, not a business one. From a profit-getting standpoint, the interests of the public and the railroads are conflicting. They can never be reconciled. If past efforts may be taken as a criterion, under the old order of things the transit problem never can be solved." Mr. Turner says of the old order—the town authorities, the community representatives, did not cause the street car system, the moving street, to ramify over the old and the new town—over the entire town—in the same manner that the street system does. Instead, the matter was left to private interests. City transit was left to be exploited by private capital as a business proposition—the natural course for a business man to follow is to develop his property so as to produce as quick a return as possible. He cannot be blamed for doing this. Now what did those old owners of the street car line do, nearly a hundred years ago? They looked over the city, selected a route which seemed to offer the best prospect. Accidental conditions might have been entirely responsible for its location, but the chief requirement was the possibility of early profit on the investment. It was a case of profits, not service. The essential thing, the question of circulating and distributing the city's population, never entered anybody's head.

Mr. Turner indicates that transit is in the same boat as all of the other related functions that go to make up the physical shell in which we develop—they must be planned—planned to serve as part of a related structure. He says in regard to his specialty: "If the city is to prosper and is to grow, its municipal transportation facilities must constantly develop and expand. To utilize these carriers in its best interest, the city should own and control them. To be able to develop, expand and utilize its facilities properly, the city must know the fundamental requirements of transit planning. When should the facilities be provided? Are they conveniently accessible? Are they sufficiently extensive? How should the facilities be owned? How should they be operated? These are important matters with which every city should be familiar. Every city should compel the development, the extension and operation of its transportation lines in such a manner as will best serve its needs."

Transit like zoning cannot play the City Planning game alone without regrettable cost to the City. New York's growth since the coming of rapid transit has been dictated by subway financiers followed by land and building speculators. London's story here again parallels that of New York.

The International Housing Conference at Rome, Italy, in September, has an elaborate program, including a general discussion of the problem of low-cost housing in all countries. It will also deal with the problem of financial intervention by State and municipal authorities, and will endeavor to bring about a uniformity of terminology, so that statistics may be more accurately compared. The question of standardization of materials will likewise be considered. The full report of the Congress will appear in the Journal.

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THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Letters to the Editor

More About Fugitive Advertising

To the Editor of the Journal:
The distinctions between Bravery, Recklessness and Knavery are sometimes fine ones. Bravery makes sure of its facts and then advances fearlessly. Recklessness plows ahead heedless of facts, and Knavery willingly ignores facts, if by so doing it may perchance profit by the ignorance of the bystander.

Mr. John Sullivan, signing himself Secretary-Treasurer of the Association of National Advertisers, Inc., and who of course speaks with authority for all the advertisers of the country, in a recent letter to the Journal of the American Institute of Architects includes the following paragraph:

“...there is another form of solicitation of advertising by architects that is also akin to blackmailing: Before me are soliciting letters written by the Chicago Architectural Exhibition, the Architectural League of New York, the Philadelphia Chapter of the American Institute of Architects and the T Square Club for their Twenty-fifth Architectural Exhibition, and so on.”

The use of the word “blackmail” by Mr. Sullivan savors slightly of the last of the three qualities mentioned above. It is a fine reptilian word suggestive of secrecy, filth, slime and venom, and as such, he seems perfectly willing to let it carry whatever false implication it may. Stripped of innuendo, his grievance against the organizations named by him is that the prestige and influence of the architectural profession is employed to divert a certain amount of advertising from professional advertising channels into publications directly supervised and controlled by the artistic professions themselves.

I quote a further paragraph of his letter:

“Incidentally, I may say that these professional men and their organizations have their letters included in a collection which contains similar solicitations from the Plumbers’ Social Club of New York, the Police and Fire Journal (of the Police and Firemen of Pittsburgh, Allegheny County and Western Pennsylvania), and the Indiana Ice Dealers’ Association, etc., etc.”

Could anything illustrate more beautifully than this paragraph the utter stupidity of the person who is entrusted with the duty of classifying the mail of the Association of National Advertisers?

I quote one more paragraph:

“Manufacturers who spend money for advertising do so for the purpose of securing a minimum unit cost of production, a low selling cost, and so be able to maintain minimum selling prices. They use, in selling their goods, not only the individual salesman, but the mass salesman—advertising.”

Let us take this statement on its face value and assume that it is fairly representative. What then? It says nothing whatever about quality and it is with quality in the industrial output of the country that professional organizations, such as those mentioned are primarily concerned. Two curses of architectural practice today are the uninformed salesman and the deluge of unreliable reading matter issued under the auspices of commercial agencies. Among the organizations mentioned by Mr. Sullivan, the one with which I have been intimately familiar during many years is the Architectural League of New York. For more than a third of a century the exhibitions, year books and other educational activities of this organization have in my judgment constituted the most valuable single element in the steady progress of quality and good taste in the industries allied with the art of architecture. These activities have been made possible by a group of farseeing builders and manufacturers of all the materials which enter into a building, who have had the wit and the imagination to see the value of an appeal to a smaller but more select audience, and many of them have been outspoken in their appreciation of the privilege of cooperating in this undertaking, from the standpoint of their own advantage as well as of the general good.

J. Monroe Hewitt.

To the Editor of the Journal:

As President of the Architectural League of New York, I feel it incumbent on me to comment on the letter published in the last issue of the Journal by the Secretary-Treasurer of the Association of National Advertisers, Inc.

This letter appears to me to express an irritation on the part of Mr. Sullivan at the temerity of the members of the Architectural League and other architectural organizations in soliciting advertising for possible private and less public benefit as well as a wholesale, public benefit also predicates an apparent lack of investigation on the part of the Secretary-Treasurer of the Association.

Letters and observations of this type, with arguments pro and con covering the principles involved, turn up periodically and the subject has been discussed from every angle with much controversial heat. The remedy seems to be in the hands of the advertisers, if one may suggest it, and that is not to advertise. On the other hand, the attitude of the manufacturer or other advertiser toward us has been uniformly encouraging and in no way significant of acquiescence in the suggestion made of polite “blackmail.” I hesitate to comment on Mr. Sullivan’s use of this word as being, I am sure, a figure of speech in its intent, and not used by him as an insinuation.

We should be delighted to eliminate advertising and make our contribution toward the general artistic education of the country by means of our exhibitions, lectures, and other propaganda, all at our own expense, if it were possible to translate the attitude of a very large group of architects, painters, sculptors, and craftsmen into practical actuality.

Their devotion to this idea is too well known to make additional comment thereon necessary.

Fortunately, there exists among the people who advertise a similar attitude toward things pertaining to art and their encouragement through the medium of architecture and the allied arts. As far as I am concerned, I feel safe in assuming that one sacrifice is offset by the other, and until we can have a Ministry or Department of Fine Arts in Washington as part of the United States government, and an attitude on the part of national or municipal governments to encourage...
INSTITUTE AND CHAPTER ACTIVITIES

August 3, 1922.

Mr. Henry H. Kendall,
American Institute of Architects,
The Octagon House,
Washington, D. C.

MY DEAR MR. KENDALL:

I hope you will express my appreciation to the Institute of Architects for the great honor I have received at their hands. There is nothing that one can treasure so much as the kindly feeling of men akin to one's own profession.

Yours faithfully,

HERBERT HOOVER.

FOR THE ensuing year the Committee on the Le Brun Traveling Scholarship of the New York Chapter is Julian Clarence Levi, Chairman, and Messrs. Ayres, Howells, Koyl and Peck.

THE ARCHITECTURAL exhibit arranged by the Washington State Chapter is considered to have been most successful and the Committee in charge has been highly commended for their work.

It seems idle to add to the evidence of the favor with which the exhibit of American Architecture has been received in England, but we cannot resist printing the comment which appeared in the publication of the Incorporation of Architects in Scotland, on the occasion of the opening of the exhibit in Glasgow on 21 June last:

"The first surprise on entering the Galleries was the general effect of the show, which was much finer than any exhibition of pictures and sculpture ever seen there. The bare cost of the work shown must have been about £50,000,000, and its artistic value probably ten times that of all the picture galleries of the world. And this is only a small part of one country during one generation. Many a poor fly buys a picture or a nick-nack. It takes a big man to build something worth while. A shallow nation spends its money on paper lanterns and hollow-walled slums. A nation of big men build for all time. America is not a nation of big men, but her men do bigger things than ours. She is passing through a Renaissance, we are passing through a Decadence, and whether passing upwards or downwards is doubtful.

"From the utilitarian point of view originality may be claimed for American buildings. The American wants comfort, and tries to get it in heat and upholstery, in a thousand 'labor-saving' devices, many of them for doing things which are better not done. From the point of view of the creative architect, America, great as she is, is less inspiring than almost any other country. Her architects are products of the hot-house schools of Paris, trained in rigid styles by the French architect dominie. Architecture has never been understood by the French. They look on it as cabinetmaking in stone. The Americans suffer from having gone to school there instead of—playing truant. Their earliest work is the best, and it is London, Dickens period. No American architect has yet realized what a skyscraper really is. The most original thing in the show is the National Farmers' Bank, Owatonna, Minn. Louis H. Sullivan, Architect, Chicago, Ill. One gets tired of guessing which old building Messrs. McKim, Mead & White will copy next.
Their office must have a photograph of every ‘box-office success’ in Europe. “Bertram Grosvenor Goodhue is good at using Spanish motifs. “The Plans of the City of Washington are neatly drawn. Who did them? “Charles I. Berg has made Allen House, Morristown, N. J., much more Old English than anything in old England. “John T. Windrim, Philadelphia, Pa., makes interesting buildings and interesting drawings of them. “Carrere & Hastings, N. Y., are somewhat amateurish in the carrying out of a big idea—The Ponce de Leon (Hotel), St. Augustine, Fla. “Why should Scottish architects remain in Scotland when America so evidently wants architecture and Scotland doesn’t? “The same old mistake—Patriotism! Patriotism makes us think that our fellow-countrymen are better than they are—Patriotism does the same for the fellow-countrymen. It would do the same for us if possible.”

News Notes

G. Albert Lansburgh, architect, announces the removal of his offices to 140 Montgomery Street, San Francisco, Calif.

ANNOUNCEMENT is made by the Chicago Building Material Exhibit of a new and expanded service for architects in connection with their sample rooms at 15 East Van Buren Street.

Visitors to Chartres this summer may have enjoyed the very rare privilege of seeing a stained glass window put together. During the war all of the glass in Chartres was taken down and stored for safe keeping. It is now being replaced, much to the delight and instruction of one of our correspondents.

W. R. B. Wilcox has accepted the professorship of architecture, which carries with it the task of organizing and administering the Department of Architecture, at the University of Oregon, to which he will carry a host of good wishes and the rare qualifications which are his through long study, reflection and experience.

The Patrons of the American Section of the Tenth International Congress of Architects at Brussels in September are The Honorable Secretary of State, The Honorable Secretary of the Treasury, The Honorable Secretary of Commerce, His Excellency the American Ambassador to Belgium, Doctor Nicholas Murray Butler, Mr. Robert de Forest, Honorable Thomas Nelson Page, Honorable John Barton Payne, Honorable Elihu Root and Mr. Daniel Chester French.

The Journal is asked to bring to the attention of architects the facts concerning the reorganization of the Officers’ Reserve Corps of the United States Army, which consists of men commissioned ready for service in a national emergency. Previous experience for enlistment is not necessary but it is the expressed desire of the War Department to give each applicant the grade and position commensurate with his probable value in helping “to plan the mobilization of the industrial, transportation, economic and even artistic resources of the country.” A letter to the Adjutant General, Washington, will bring application blanks, and a reserve officer may be commissioned direct from civil life, provided, in the case of an architect, he has the necessary training and experience.

President Fiske of the Metropolitan Life Insurance Company of New York turned the first sod, on 16 August, in the work of the building the new Nine-dollar-a-room apartments, designed by Andrew J. Thomas, illustrations of which have already appeared in these columns. The event was marked with much ceremony. The gratitude of the children was symbolized, “labor” promised its unqualified support, and there were remarks and addresses by prominent people. The publicity resulting might well be pondered by architects generally, for it seems an easy thing to achieve when undertaken in the proper way. In the meantime, it is safe to say that no housing venture was ever the object of more interest than this one, for it is the last word in the United States in careful planning and financing.

The Associated General Contractors of America, Inc., announce the preparation of a standard form of Equipment Rental Agreement for distribution to its membership. It is designed to remove misunderstandings and facilitate the shipping of equipment on short notice or in emergency. Its interest to architects will be found, we believe, in cases where they are working under a cost basis of agreement. Architects using the Circular of Information on the Cost Plus Fee Form of Contract for Building Construction will have noticed that the question of plant is touched upon in Article 7, and the present standard form of equipment lease will no doubt assist in meeting the problems disclosed in this Article. Copies of the Agreement may be obtained from the A. G. C., Inc., Munsey Building, Washington, D. C., at ten cents each or five dollars a hundred.

Obituary

Howard Crosby Butler, H.A.I.A. Elected to Honorary Membership in the Institute in 1915 Died at Paris, France, 15 August, 1922 (Further notice later.)

George Beaumont, F.A.I.A. Elected to Fellowship in the Institute in 1889 Died at Chicago, 11 July, 1922 (Further notice later.)

Structural Service Department appears on the second right-hand page following 302
Durable

LIKE the granite cliff that withstands the waves for countless years, Wolff Quality Plumbing is scientifically built to resist not only the mechanical but also the chemical and electronic action of water for a lifetime.

67 years experience has indicated to the Wolff organization the ideal material and design for every variety of plumbing—valve seats, nickel plating, galvanizing, enamelware, potteryware, etc.; and our policy is to use one grade only—the highest.

Wolff installations are constantly being found in old buildings where they have been giving complete satisfaction without attention for many years.

WOLFF Quality Plumbing

Sanitary Enamelware
Range Boilers :: Brass Goods
Potteryware :: Marble

Branch or Distributor at Every Central Point
Ask for Wolff Brass Goods Catalog "G"

Distributors at:

Dallas CHICAGO Omaha
St. Louis Hammond Buffalo
Denver Cincinnati New York

The presence of Wolff Fixtures in a structure implies quality construction throughout

September, 1922
Raymond We repeat - Every Raymond Concrete Pile is cast in place in a spirally reinforced steel shell and this shell is left in the ground - think it over

Raymond Concrete Pile Co.

A Form for Every Pile - A Pile for Every Purpose

Raymond Piles (Concrete)

Industrial Section September, 1922 Journal of the American Institute of Architects
In connection with the work of the Committee on Structural Service of the American Institute of Architects and in collaboration with other professional societies and organized bodies having the same objective—improvement in building materials and methods and better shelter for humanity in all its manifold vacations and vocations.

Committee Activities

The Producers Section. There was published in the August issue of the Journal a report on progress made in organizing the Producers Section of the Structural Service Committee. The resolutions adopted by the Joint Organizing Committee, called the Executive Committee, required that the Chairman of the Structural Service Committee, with the consent of his Committee, appoint an Executive Committee of the Producers Section. This unusual procedure of organizing from the top down was resorted to because the Producers Section existed only in name. There were no qualified members to elect officers and no membership from which to select them. Consequently an arbitrary selection had to be made from among those representatives of manufacturers who had previously declared their intention of becoming members and who were in New York or near enough to New York to insure a quorum at meetings called on short notice.

The members of the Producers Section Executive Committee appointed with the approval of the Structural Service Committee are as follows:
* O. C. Harn, National Lead Co., N. Y. C.
* T. D'A. Brophy, Anaconda Copper Co., N. Y. C.
* F. P. Byington, Johns-Manville, Inc., N. Y. C.
* Lyman Clark, General Electric Co., Schenectady, N. Y.
* Geo. E. Swenson, The Barrett Co., N. Y. C.
* A. J. McComb, Otis Elevator Co., N. Y. C.
* Junius Brown, Pacific Lumber Co., N. Y. C.
* Ray Young, Stanley Works, New Britain, Conn.

The members accepted appointment.

In the interest of expediting the transaction of Committee business it became necessary to have an Executive Committee of the Structural Service Committee vested with the authority usually given to such a Committee. By letter ballot the Structural Service Committee created the following Executive Committee:
Director:
Sullivan W. Jones, Chairman.

Vice-Director:
F. Y. Joannes.

Secretary:
LeRoy E. Kern.

All of these Executive Committee members are in New York and were nominated because of that fact. They will meet with the Executive Committee of the Producers Section.

Mr. F. Y. Joannes has been made Treasurer of the Structural Service Committee and custodian of its funds. The Committee's first selection for treasurer was Mr. Kern, but the appointment was made subject to approval of the A. I. A. Board of Directors, and the Board suggested the wisdom of selecting for the treasurership a member of the Committee whose services were wholly gratuitous. The action of the Executive Committee in substituting Mr. Joannes for Mr. Kern will be submitted for ratification to the whole Committee.

Invitations to membership in the Producers Section are being sent to a list of some 350 manufacturers. At the time of this report (August 16th) the following have accepted:
* The National Lead Company,
* General Chemical Company,
* Associated Tile Manufacturers,
* Spencer-Turbine Company,
* American Face Brick Association,
* Johns-Manville, Inc.,
* Southern Pine Association,
* Stanley Works,
* Monarch Metal Products Company,
* National Terra Cotta Society,
* Otis Elevator Company,
* Frank Adam Electric Company,
* National Lime Association,
* Atlantic Terra Cotta Company.

In connection with the service of counseling and advice on advertising being rendered by the Structural Service Committee with the aid and collaboration of the Producers Section, it is important that certain possible misconceptions should be prevented from establishing themselves. The Committee on Structural Service will not prepare advertising copy. It will merely criticize copy submitted from the standpoint of the usefulness of the proposed advertising to architects.

The Committee will make no attempt to verify the truth of claims made in advertising. The Committee, will, however, urge upon manufacturers the importance to them of substantiating their claims by the submission of evidence of unquestionable authenticity.

Membership in the Producers Section signifies no approval by the Structural Service Committee of either the manufacturer or his product, or of his advertising. The fact that through accepting membership in the Producers Section, a manufacturer has declared his interest and desire to aid in the work of making advertising to architects a more useful and trustworthy medium of communication, should be recognized and add perhaps somewhat to his prestige in the eyes of the architectural profession.

Abstracts

It is the purpose of the Structural Service Committee and THE JOURNAL jointly to give in this division each month, brief abstracts of all publications by the Government Departments and Bureaus, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and thus afford architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.
Scientific Ceramics

Rutgers College has always taken a scientific interest in ceramics, and its course in Ceramic Chemistry is one of the best in the world.

We were glad to help when a new Ceramic Building was erected. In acknowledgment of our appreciation of their service to the industry we contributed the Main Entrance of Atlantic Terra Cotta.

We made the entrance in accordance with the design of the Architect, Mr. Alan B. Mills—a design which in modeled detail and the use of bright colors is a typical ceramic design.

The base color, vitreous gray, is enlivened with touches of green, yellow and brown in the modeled detail. The vestibule panel is modeled in warm yellow-brown against a background of green.

As the dominant feature, the Main Entrance of Atlantic Terra Cotta immediately gives the building an appropriate ceramic character.


"Questions Answered" on request

Atlantic Terra Cotta Company
350 Madison Avenue, New York

Southern Factory
Atlanta Terra Cotta Company
Atlanta, Georgia
"Gunite" Walls. (Report of tests by the Underwriters' Laboratories. Pages 90. Size 6" x 9". Illustrated.)—This report is confined to various types of single and double exterior and interior walls and partitions. The fire protection is furnished by expanded metal (134″ mesh) em-bedded in Portland cement mortar applied with a "Cement-Gun."

Construction of Double (Hollow) Exterior Wall Panels. These panels are constructed of cement mortar slabs from 2" to 2½" thick. The mortar is applied over expanded metal against a backing of roofing felt tacked to a wooden framework over horizontal wires, reinforced concrete studs. 6" wide, spaced not over 7'-0" on centers, are constructed between the main structural members. The wooden framework consists of vertical 8″ x 6" boards with edges toward the outer surfaces of the wall. These boards are placed as far apart between the studs and structural supports as is possible and still give the requisite strength for supporting the wet mortar. Horizontal boards are cut in between the vertical boards at intervals of approximately 3'-0". This framing serves to support the felt backing and expanded metal while the cement is being applied and until it has set. Its function ends when the cement has set, but as it is encased in the wall it cannot be removed.

At openings in the wall panels, reinforced sills and lintels are formed.

In connection with skeleton steel construction all structural steel members are protected by at least 2" of concrete. Re-entrant portions are filled solid.

In connection with reinforced concrete skeleton construction the wall panels are built in place independently and anchored to the concrete structure. The reinforcing rods for the cement studs are set in place when the concrete frame is poured or set in holes drilled in the concrete if the construction will prevent the passage of flame through the wall to protecting steel or reinforced concrete load bearing units of the building frame, and without openings in walls, when exposed on either side to standard fire conditions will prevent the passage of flame through the wall for upwards of three hours and will function as a barrier to the passage of fire through heat transmission for at least three hours.

The actual operation of shooting the cement in place practically less than 33 per cent of the time required to apply the concrete.

About twenty per cent of the material placed in the hopper of the "Cement-Gun" was not actually incorporated in the construction of the panel. This includes sand and cement not adhering and mortar struck off in trueing up. Also a small quantity of sand and cement was left in the machine. The panels when finished were practically identical in appearance except that two panels were double faced and two single faced.

The concrete was all applied under pressure and the method of application seems to assure a uniform composition of the mortar applied. The concrete as applied to these samples varied considerably in thickness even on the same sample and there appeared to be considerable waste of material.

Conclusions—Practicability.—Gunite walls of the types described can be installed without material difficulty, can be applied quickly and uniformly, are not easily damaged, and, if damaged, can readily be repaired.

Durability.—Field examinations indicate that these walls will resist the weather for long periods without deterioration and the "Gunite" will retard corrosion of steel as do other cement coverings.

Strength.—These gunite walls, when non-bearing, have sufficient strength for the intended use. They are sufficiently strong to support their own weight and to provide the requisite stiffness for the wall when made in any commercial heights. In the impact tests many blows were required to open a large hole in the expanded metal, one blow from the beam making a small hole, which was increased by the following blows. It took many blows to tear through the expanded metal sufficiently to reach the unexposed face of the double wall construction.

Uniformity.—The various parts of the completed structure are all as uniform as is practical in constructions of this class. All gunite is probably more uniform in composition than ordinary cement mortar, since the sand and cement are mixed in the dry state before being put into the machine where they are subject to another mixing before reaching the discharge nozzle. It is also probable that an excessive amount of sand in the mixture, when discharged through the nozzle, would simply result in an excessive sand waste. The thickness of the panels showed considerable variation. This was due to sagging of the felt backing caused by the force with which the mixture was discharged against the structure. The tests all indicate that completed gunite structures will be fairly uniform.

Fire Retardant Properties.—The outstanding feature of all the fire tests was the spalling of the gunite with a resultant reduction of the fire retardant properties. Test performances, however, shows that this spalling can be largely controlled. No spalling occurred in the tests except where the span of the gunite slab was very short.

Hollow 12″ gunite exterior or interior non-bearing walls with 6" x 8″ gunite studs placed not less than 4 feet nor more than 7 feet center to center, anchored at all edges of the wall to protecting steel or reinforced concrete load bearing units of the building frame, and without openings in walls, when exposed on either side to standard fire conditions will prevent the passage of flame through the wall for upwards of three hours and will function as a barrier to the passage of fire through heat transmission for at least three hours.

Solid 2″ gunite exterior walls and interior partitions, non-bearing, reinforced with studs and anchored as above.

G-E National Advertising to prospective home builders is creating a new appreciation of the comforts of a completely wired home — stimulating desire for added refinements.

Convenience Without Sacrificing Beauty

The modern architect is called upon to provide maximum convenience and still preserve beauty of interior. The G-E Twin Convenience Outlet helps him to do both.

This double outlet facilitates the use of decorative lamps and eliminates the necessity of long connecting cords from wall or ceiling fixtures. Thus the beauty of any room is retained as it was originally designed.

To satisfy the client’s desire for plenty of outlets, the architect should plan accordingly and make allowance for an increasing use of electricity. With G-E Twin Convenience Outlets in every room, the usefulness of the wiring installation is doubled without sacrifice of artistic effect by overcrowding outlets.

G-E RELIABLE WIRING DEVICES can be furnished by any qualified electrical contractor. For information address Merchandise Department, General Electric Company, Bridgeport, Conn.
described, will prevent the passage of flame through the wall for upwards of one hour and will function as a barrier to the passage of fire through heat transmission for at least one hour.

Moments and Stresses in Slabs. (465)—By H. M. Westergaard, Assistant Professor of Theoretical and Applied Mechanics, University of Illinois, and W. A. Slater, Engineer Physicist, U. S. Bureau of Standards. Reprinted from Proceedings of the American Concrete Institute, Volume 17, 1921 by the National Research Council, 1701 Massachusetts Avenue, Washington, D. C. Pages 124.—The authors of this report have correlated the large amount of experimental work previously done on slabs with results of their own special analysis. The report consists of five parts:

Part I is a brief introductory statement of purposes and scope of analysis.

Part II, pp. 2-56, presents (1) the fundamental equations which form the basis of the theoretical analysis of slabs (2) intensification and distribution of moments in a large number of cases of slabs supported rigidly on four sides and of girdersless slabs, all loaded with uniform load, and (3) as an entirely new feature, the effect of the non-uniform distribution of load in modifying the stress in different parts of the slab. Information not previously available is presented to indicate the moments due to a uniform load in a large number of special cases.

Part III, “Relation between observed and computed tensile stresses in reinforced concrete beams,” contains an analysis of tests of beams which shows more clearly than has been done elsewhere the systematic relations between the observed and computed stresses and between the maximum load and the yield point stresses of the reinforcement.

Part IV, “Tests of slabs supported on four sides,” and Part V, “Tests of flat slabs” offer an analysis of test data on slabs, and correlates the slab analysis of Part II and the analysis of beam tests of Part III with the test data of a considerable number of full size and of laboratory slabs. In appendices are given method of solution employed in slab analysis and detailed test data obtained with two of the slabs employed in the study reported in Part V. There is also a bibliography of published and unpublished results of tests on slabs.

Although the moment coefficients arrived at in this analysis are larger generally than those likely to be used in design, and larger than those indicated as necessary the effect on one part of the structure by any modification in another part is well shown by diagrams.

Wear Tests of Concrete. (44)—(Structural Materials Research Laboratory Bulletin 10 by Duff A. Abrams. Pages 25. Size 6" x 9").—The investigation includes tests of about 10,000 wear blocks made to determine how the wear of concrete is affected by such considerations as quality of cement and aggregates, quantity of water, addition of hydrated lime, etc.

It is stated in the conclusions that:

In general the factors which gave concrete of high strength also gave concrete of low wear (a high resistance to wear.) Increasing the quantity of cement reduced the wear. Increasing the quantity of mixing water, beyond the minimum required to produce a plastic concrete, caused a material increase in the wear. The coarser the grading of the aggregates, up to certain limits, the lower the wear. Curing concrete under favorable conditions exerted a marked influence in reducing wear. Wear was materially reduced by longer mixing of the concrete. Wear was reduced (resistance to wear increased) with the age of the concrete. The quality of the fine or coarse aggregate produced less effect on wear than is commonly supposed. The wearing resistance of concrete is determined largely by the quality of concrete rather than by the type of aggregate. Good concrete can be produced from aggregates which are generally considered inferior, if other factors are properly taken into account. The wear of concrete was not sensibly increased by the presence of hydrated lime or other powdered admixtures up to 20 per cent of the volume of cement.

Treatment and Disposal of Sewage. (29c2)—(U. S. Public Health Service. Reprint No. 580 from the Public Health Reports. Size 6" x 9" Pages 33.) This publication gives a brief description of the methods, processes, and structures used in the treatment and disposal of sewage in the United States. The information is sufficient, however, to give a general idea of the various methods of disposal, and references have been made to literature where complete data may be obtained on the design and operation of any combination of treatment devices discussed in the text.


Slash Pine. (19a)—(U. S. Dept. of Agriculture, Forest Service. Farmers' Bulletin 1256 by Wilbur R. Mattoon. Pages 41. Size 6" x 9"). Illustrated.) The purpose of this bulletin is apparently to point out the commercial value of this variety of pine. The following are among the subjects discussed: How to recognize slash pine; Range and distribution; Rate of growth; Timber, turpentine and rosin production.

Relative Durability of Native Woods. (19a)—(Forest Products Laboratory. Technical Note 173.) In response to numerous requests for information on the relative durability, or resistance to decay, of untreated woods, the U. S. Forest Products Laboratory has prepared the following table from the service records and information it has collected. There are not enough records in existence on some of the woods to be conclusive, and the durability figures given should be accepted only because they are based on the most complete service data anywhere obtainable, supplemented by observation and expert opinion from many sources. They are subject to correction whenever authentic service data show the necessity.

No attempt has been made to translate the relative durability given here in per cent into years of life, since the variety of climate, soil and moisture conditions to which timbers might be exposed would make such data worthless. Individual timbers of the same species may differ considerably in durability, too, according to the amount of heartwood and sapwood they contain and to their state of preservation when they are placed in service. Under any given set of conditions, however, the average service life of timbers of the different species will probablyvary in proportion to the percentages given.

Black locust and osage orange are the most durable of the native woods. When exposed to conditions which favor decay they will probably last almost twice as long as white oak, and from three to four times as long as red oak. Bald cypress, redwood, catalpa, and most of the cedars are also highly durable species. Douglas fir, longleaf pine, the white pines, and western larch average only a little less durable than white oak. Hemlock, the true firs, and lob-
NEW PERSONS take time to give personal attention to selecting the lumber to be used in their homes. Yet they insist on their favorite brand of shirts or shoes because they know that brand means dependability and maximum quality for the amount spent.

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Know the lumber you buy
### STRUCTURAL SERVICE DEPARTMENT

<table>
<thead>
<tr>
<th>Woods</th>
<th>Durability of Commercial White Oak Taken as 100 Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conifers</td>
<td></td>
</tr>
<tr>
<td>Cedar, eastern red</td>
<td>150-200</td>
</tr>
<tr>
<td>(juniper)</td>
<td></td>
</tr>
<tr>
<td>Cedar, southern white</td>
<td>80-100</td>
</tr>
<tr>
<td>Cypress, bald</td>
<td>125-175</td>
</tr>
<tr>
<td>Douglas fir (dense)</td>
<td>75-100</td>
</tr>
<tr>
<td>Douglas fir (average)</td>
<td>mill run 75-85</td>
</tr>
<tr>
<td>Fir (the true firs)</td>
<td>25-35</td>
</tr>
<tr>
<td>Hemlock</td>
<td>35-55</td>
</tr>
<tr>
<td>Larch, western</td>
<td>75-85</td>
</tr>
<tr>
<td>Pine, jack</td>
<td>35-45</td>
</tr>
<tr>
<td>Pine, long leaf, slash</td>
<td>(Cuban) 75-100</td>
</tr>
<tr>
<td>Pine, Norway</td>
<td>45-60</td>
</tr>
<tr>
<td>Hardwoods</td>
<td></td>
</tr>
<tr>
<td>Ash</td>
<td>40-55</td>
</tr>
<tr>
<td>Aspen</td>
<td>25-35</td>
</tr>
<tr>
<td>Basswood</td>
<td>30-40</td>
</tr>
<tr>
<td>Beech</td>
<td>40-50</td>
</tr>
<tr>
<td>Birch</td>
<td>35-50</td>
</tr>
<tr>
<td>Butternut</td>
<td>50-70</td>
</tr>
<tr>
<td>Catalpa</td>
<td>125-175</td>
</tr>
<tr>
<td>Chestnut</td>
<td>100-120</td>
</tr>
<tr>
<td>Cottonwood</td>
<td>50-40</td>
</tr>
<tr>
<td>Elder, pale</td>
<td>25-35</td>
</tr>
<tr>
<td>Elm, cork (rock)</td>
<td>slippery 65-75</td>
</tr>
<tr>
<td>Elm, white</td>
<td>50-70</td>
</tr>
<tr>
<td>Gum, black, cotton</td>
<td>(tupelo) 30-40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties of a Good Wood Preservative. (19a31) — (Forest Products Laboratory. Technical Note 177.)</th>
</tr>
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<tbody>
<tr>
<td>A list of the various substances that have been used or suggested for preserving timber from decay would include a surprisingly large proportion of those known to industrial chemistry. By-products for which no use could be found have often taken their last stand as possible preservatives of wood. There have been sent to the U. S. Forest Products Laboratory for testing of their preservative qualities the condensed fumes of smelters, the waste liquors of pulp plants, the refuse of tanneries, the skimmed milk of creameries, and a wide assortment of compounds under trade names. Very few materials have been found to have value as wood preservatives. Most of them lack one or more of the following requirements. To preserve wood against decay a substance must first of all be poisonous to wood-destroying fungi. Decay in wood is not due to direct chemical action or action of the elements but is always the result of the activity of those plants which feed on the wood and thus destroy it. To prevent fungal infection, the preservative must be able to penetrate the wood thoroughly enough to form a continuous exterior shell of poisonous treated wood deeper than any surface checks which are likely to develop, and to retain its toxicity, or poisoning power, under service conditions. Safety in handling and use is another important consideration. A wood preservative must not be a dangerous poison to men and animals, a highly inflammable substance, nor a material injurious to wood. If it seriously corrodes iron, steel, or brass, its use is limited because of its action on the treating equipment and on bolts and metal fastenings in contact with the wood in service. Color, odor, and effect on paint are sometimes of considerable importance. Provided a preservative meets these requirements its cost, availability, and uniformity, will largely determine its usefulness. There are materials of established protective value now on the market which are both cheap and plentiful. The standard wood preservatives in the United States are zinc chloride and coal-tar creosote. Their value has been established by many years' use of millions of railroad ties, posts, poles, paving blocks, mine timbers, and other wood treated with them. Search for new and better preservatives is constantly being made, but in the meantime the wood preserving industry has at its command these reliable materials. Blight-Infected Chestnut as Durable as Sound Chestnut. (19a31)—(Forest Products Laboratory. Technical Note 174.) Service records collected by the U. S. Forest Service indicate that chestnut posts, poles and ties cut from blight-infected trees are as durable in service as similar timbers cut from healthy trees. Inspections on posts in one locality during eight years of service showed that decay progresses about as rapidly in undiseased posts as in blight-infected posts. The blight fungus attacks living trees and grows in the bark, particularly in the cambium layer, but it does not penetrate deeply into the wood itself. The blight finally kills the tree, effectively girdling it by separating the bark from the wood. Comparative Strength of Air-Dried and Kiln-Dried Wood. (19a32)—(Forest Products Laboratory. Technical Note 180.) Some wood users claim that kiln-dried wood is brash and not equal in strength to wood that is air-dried. Others advance figures purporting to show that kiln-dried wood is much stronger than air-dried. But some 150,000 comparative strength tests, made by the Forest Products Laboratory, of the U. S. Forest Service, on kiln-dried and air-dried specimens of 28 common species of wood show that good kiln drying and good air drying have the same effect upon the strength of wood. The belief that kiln drying produces stronger wood than air drying is usually the result of failure to consider differences in moisture content. The moisture content of wood on leaving the kiln is generally from 2 to 6 per cent lower than that of thoroughly air-dried stock. Since wood rapidly increases in strength with loss of moisture, higher strength values may be obtained from kiln-dried than from air-dried wood. Such a difference in strength has no significance, since in use a piece of wood will come to practically the same moisture condition whether it is kiln-dried or air-dried. It must be emphasized that the appearance of the dried wood is not a reliable criterion of the effect the drying process has had upon its strength. The strength properties may be seriously injured without visible damage to the wood. Also, it has been found that the same kiln-drying process can not be applied with equal success to all species. To insure uninjured kiln-dried material, a knowledge of the correct kiln conditions to use with stock of a given species, grade, and thickness, and a record showing that no more severe treatment has been employed, are necessary.</td>
</tr>
</tbody>
</table>
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From a wealth of experience with building materials, 'tis natural to expect architects to choose wisely and well for their own office building.

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Laminated Wood Construction. (1966)—(Technical Note, 140. Forest Products Laboratory.)—The use of heavy and light material of the same species in laminated or glued-up wood construction has less injurious effect than has generally supposed. Most warping and checking in laminated construction is due to the use of plain-sawed and quarter-sawed lumber in the same construction, or to the combination of material of different moisture content.

Plain-sawed lumber of any species shrinks and swells more than quarter-sawed lumber; and when the two kinds are glued together, they pull against each other with every change in moisture content. If the block containing such a combination is kept for a long time in the same atmospheric condition, the stresses die out, because the block checks or changes shape more or less to relieve the stretched internal stresses.

As soon as the atmospheric conditions change, new stresses will be set up.

If boards of different moisture contents are glued together, internal stresses will result from the unequal shrinkage of the boards as their moisture contents equalize through seasoning. In some blocks made at the laboratory these stresses were large enough to rupture the wood. If the wood is not ruptured, the stresses will disappear permanently in time, but the block will have changed its shape somewhat in getting rid of them.

From these facts it becomes apparent that for laminated-wood articles where strength and accurate shape are required, it is desirable to use all plain-sawed or all quarter-sawed material, to have all pieces at a uniform moisture content when glued, and to prevent as far as possible subsequent moisture changes by means of moisture-resistant coatings. For the manufacture of rougher articles where slight changes in form are of no consequence, these precautions are of much less importance.

Sitka Spruce. (19a)—(Sitka Spruce: Its Uses, Growth, and Management, by N. Leroy Cary, Forest Examiner. U. S. Dept. of Agriculture. Forest Service. Bulletin No. 1060. Size 6" x 9". Pages 35. Illustrated.) This bulletin devotes more space to the growth, distribution, varieties and management of sitka spruce than to the uses. The following are among the subjects discussed: Geographic distribution and altitudinal range; Present supply and annual cut; Physical properties of substances, it appeared that instead of using the roofing material now obtainable, which has (1) both sides covered with asbestos, or (2) both sides covered with a bright metal (aluminum paint) the proper covering is one in which the outside is a good reflector (white paint or asbestos) for short wave lengths and the inside is covered with aluminum paint which reduces the radiation into the building.

These conclusions were verified during the past month when it was found that the radiation from the rear side of an all-asbestos roofing material was reduced by 50 per cent by having the outside of asbestos and the inside painted with aluminum. The temperature rise above the shade temperature was only 15 degrees C as compared with 25 degrees C for the sample in which both sides were covered with aluminum.

It seems obvious that tents and other enclosures exposed to the sun can be made more comfortable by painting the inside of the roof with aluminum paint.

School Grounds. (35b)—(U. S. Dept. of Interior. Bureau of Education. Bulletin No. 45 "School Grounds and Play" by Henry S. Curtis. Pages 31. Size 6" x 9"). This bulletin discusses new state laws, the municipal playground, area of the school ground, trees, menagerie, garden, equipment, supplies, time for play, the Gary system and its modifications, the gymnasium, athletics, curriculum of play, special playgrounds for typical children, the school excursion, the community center, the summer vacation.

It also contains the following bibliography.


Bancroft, Jessie H. Games for the playground, home, school, and gymnasium. New York, Macmillan Co.


Curtis, Henry S. Play and recreation in the open country. Boston, Glan & Co.

Education through play. New York, Macmillan Co.

The practical conduct of play. New York, Macmillan Co.

The play movement and its significance. New York, Macmillan Co.
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Johnson, George E. Education by plays and games. Boston, Ginn & Co.

What to do at recess. Boston, Ginn & Co.


New Jersey (State). Education department. Course in physical training. State of New Jersey.

New York (State). Education department. General syllabus for physical training in the elementary and secondary schools of the State of New York.


Stecher, William A. Games and dances. McVey.

Carbon Monoxide Poisoning in Closed Garages. (31f)—(U. S. Treasury Dept. Public Health Service. Reprint No. 694. Public Health Reports. Pages 6. Size 6" x 9"). This publication describes experiments made on the poisonous effects of carbon monoxide gas in varying concentrations and thus indicates the necessity for thorough ventilation of garages. It was found, for example, that a 23 H. P. automobile engine while "warming up" would give off approximately 1.5 cubic feet of carbon monoxide per minute. In a closed room 10' x 10' x 20' the dangerous concentration of 15 parts of carbon monoxide in 10,000 parts of air will be reached in 3 minutes by a car giving off 1 cubic foot of carbon monoxide gas per minute.

The Eye as Affected by Illumination. (Bul- letin L. D. 130. Lighting Data. Edison Lamp Works. Size 6" x 9". Pages 16.) Seeing with continued ease and comfort requires good lighting. In order to be able to understand just what qualities of artificial illumination are desirable, we must know something of the characteristics of vision in the human being. The eye with all the marvelous organization behind it for the production of visual perception was evolved under natural conditions of illumination.

In imposing new artificial lighting conditions on the human eye, we must expect to find harmful reactions. The unfortunate part, however, is that reaction to abuse of the eye is not always immediate and the harmful effects do not always confine themselves to the eye alone, but extend to the nervous system in general.

The present stage of accumulated knowledge on the phenomena of visual perception is incomplete. Material in this bulletin represents an attempt to outline the steps involved in visual perception and those qualities of lighting required for seeing with ease and comfort.


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the Architects in the United States

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THE INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
October, 1922
## JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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### CONTENTS

<table>
<thead>
<tr>
<th>Article</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Arlington Memorial Bridge Proposal at Washington</td>
<td>Frontispiece</td>
</tr>
<tr>
<td>Shadows and Straws</td>
<td>C. H. W. 303</td>
</tr>
<tr>
<td>Amsterdam—Old and New</td>
<td>Clarence S. Stein 310</td>
</tr>
<tr>
<td>Architects and City Planning—Chapter III</td>
<td>Thomas Adams 328</td>
</tr>
<tr>
<td>Architecture and the Public Press—I</td>
<td></td>
</tr>
<tr>
<td>Community Planning and Housing</td>
<td>Clarence S. Stein 334</td>
</tr>
<tr>
<td>The Institute's Activities</td>
<td>William Stanley Parker 336</td>
</tr>
<tr>
<td>Chapter Activities</td>
<td></td>
</tr>
<tr>
<td>From Our Book Shelf</td>
<td></td>
</tr>
<tr>
<td>News Notes</td>
<td></td>
</tr>
<tr>
<td>New Members Elected</td>
<td></td>
</tr>
<tr>
<td>Obituary</td>
<td></td>
</tr>
<tr>
<td>Structural Service Department</td>
<td>xiii</td>
</tr>
</tbody>
</table>

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Industrial Section  Journal of the American Institute of Architects  October, 1922
The Arlington Memorial Bridge Proposal at Washington

Plan showing the development of Washington as laid out by the Commission of 1901, and indicating the site selected for the Arlington Memorial Bridge. The Arlington Memorial Bridge Commission has presented an alternative plan by which the bridge would cross the river higher up and at the terminus of New York Avenue, as shown by dotted lines in the illustration, which would then be carried through the present Naval Hospital and grounds. The Commission of Fine Arts has had this proposal under consideration and has submitted a report adversely thereto and has expressed the hope that no deviation be made from the plan of 1901, which was of course the basis for determining the location of the Lincoln Memorial. The small sketch above, by Mr. Henry Bacon, Architect of the Lincoln Memorial, shows how the New York Avenue location of the bridge would make it compete with the Memorial.
NEW MEN THERE ARE, caught in an avalanche, who would exhibit that rare philosophic poise which would cause them to reflect upon the futility of clutching at the nearest object. Yet it is certain that when everything is coasting down the mountainside with precision, velocity, and unanimity, the human caught in the track is destined to go along. Therefore, in the midst of the present day avalanche of censorships and restrictive laws, it seems hardly worth while to clutch at the decision handed down by Magistrate George W. Simpson--Hail to his name!--in the Municipal Court of New York City on 12 September last. The Society for the Suppression of Vice had sought to restrain the further issuance, on the grounds of obscenity, of three books by three writers who believe that a function of literature is to portray life as they see it and to provide a basis for passing judgment by seeking to discover why it is that people act as they do, no matter into what field the study may lead. It seems unbelievable that in this day and age there can be opposition to any such beliefs, and it is at least some satisfaction to know that the S. for the S. of V. was sent home to think over a very intelligent opinion as expressed by Magistrate Simpson. It may be a straw to clutch at but we doubt it.

On the very same day, for example, it was announced that the theaters of New York City will in future submit their productions to a voluntary censorship by 500 "intelligent citizens." The quotation marks were used in the press, which may indicate that some editors were sufficiently sensible to realize that no really intelligent person would presume to set up standards of right and wrong for others, either in esthetics or in morals. That kind of person is too busy in trying to set up standards for himself. It is only the snobe—the dull and the stupid—who are so eager to lay down the law. It might be noted, in this case, that there are certain extenuating circumstances, for the voluntary censorship is an effort to head off the legal (political?) censorship that has so long threatened. However, the experience in the moving picture field does not inspire one to believe that the result will be any different in the case of the legitimate theater. We are far too dull, as a nation, to perceive that the only remedy for what may be considered as degeneracy in art or in morals is more liberty—not less.

The true libertarian will here rise to remark that character is not formed on an intellectual diet of carefully disinfected platitudes. That human beings are not made strong by being spared the "bright face of danger" but by being taught to look upon it lightly. That men are not made good by laws which restrict their liberty but only by learning to use that very liberty by which all men and all nations must in the end be tested. That art is not propagated in the hothouse of expurgated, sterilized and standardized respectability, where the shades are always down, but in the clear air of liberty where all beauty is seen to be pure. Every step toward the censorious and legal manacling of the mind of man means a more and more dangerous sapping of the one fibre that can carry us on—the power of clear thinking.

We agree, of course, but one might also inquire what it is all about anyway? Is it because economic pressure has risen until it is straining the bonds that confine it? We think so. We think that wise men see that some things will have to be changed, just as all wise men have ever seen. But the dull and the stupid, who fear the very word change, believe that it can be prevented by taking away, one after the other, every liberty of the individual. If thinking could only be made a capital offense how happy the dull people would be!

But the approaching condition is one in which "morals," so-called, will be made safe by law. Art will be made secure by emasculated premeditation. The spectacle is either too tragic for words, or too comic for laughter. On the whole, perhaps, 'twere best to let ourselves be comstocked and bowdlerized without further ado. Then we can return to the ad-
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

venturesome joy of hiding our dime novels under the bed, as we used to, and that was some fun. On with the laws, censors, commissions, amendments! Away with the Bible and the work of every great artist since time was! Let purity reign. Some art will still be bootlegged, we opine, and that may prove to be the most certain way of making it universally precious. Recent experience might be taken to indicate that the real hope for art lay in its merciless suppression.

As for architecture, one hardly dares predict. It is involved with property rights as is not the happy situation of drama and the dance and the other arts generally. Likewise, architecture is very difficult to hide. “But that,” as a great Mythlodatian ruler is said once to have remarked, as he signed an order for the immediate demolition of a building that had singularly offended his eye, and affixed his royal seal to a warrant calling for the instant decapitation of the designer thereof, “is one of the things that architects ought never to forget.”

Exposing ourselves to what we believe to be a wholly unwarranted charge of pessimism we think it fitting to point out in connection with Mr. Stein’s article in this issue that the housing dilemma is not by any means over. Certain New York newspapers have trumpeted their great services abroad—one for having paved the way for Mr. Untermeyer and the scandals he exposed, the other for its irresistible panacea of tax-exemption as a means of getting more houses. Likewise the single taxers generally have heralded this latest experiment of New York City—this involuntary and unwitting confession that the American low paid worker cannot support himself decently out of his wages—as a marvelous demonstration of the single tax as a universal panacea. We hope that no one will accuse us of having ignored land monopoly as the primal curse of man, but it is certain, if one will but examine the housing that has been provided under the tax exemption law of New York City, that something more is needed if New York is not to quit the frying pan for a hotter fire than it will be able to bear. The facts are that no newspaper in New York City, so far, has been willing to face the real difficulty in dealing with the housing situation, and that the single taxers have no basis for pretending that here the occupants of the houses have in any way been benefited. True, it is not a bona fide application of the single tax theory, which is all the more reason why its partisans should withhold their judgment and bestow a more critical examination upon the kind of housing and the environmental conditions that have been the result of New York’s experiment.

Many things have been left over from the war and one of these is the renewed rivalry between Trieste and Venice. It now bids fair to take form in the development of the Port of Venice, although reports indicate that this is to be done without in any way affecting the “historic and artistic associations of the city.” The project seems to be under way, as accounts refer to the new canal as having been opened by the king, the construction of three large docks, and the contemplated provision for three miles of wharves, the area of the port when completed to be larger than that of Venice itself. The work is being carried out by the State, the City of Venice and a private company, eighty million lire having already been spent.

C. H. W.

The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER V.

Newburyport

The train now well under way for Newburyport, our poet, he of the dream-life, crawled forth from his cave of gloom and began to take notice. Soon he was all notice and no gloom. His prior and only trip in a railway train was now over two years back in ancient history, which signified oblivion. Hence all was now new and novel. He began at once, at the very beginning of the beginning, that intolerable, interminable series of questions which all children ask and no mother can for long stand the strain of answering. He did his mother the wholly unsolicited and unwelcome honor of assuming as a finality that she knew the names of every farmer along the route, that she knew why the trees went by so fast, why the telegraph wires rose and fell and rose again; that she was personally acquainted with the conductor and the brakeman. At the forty-seventh question, Mother, who was only twenty-eight and not very strong, became drowsy with fatigue just as her son was becoming rigidly interested. Mother was not the only one asleep; everybody was asleep; and he noticed that they were all greasy with sweat and dust and grotesquely relaxed. He was intent on knowing the brakeman’s name. For that purpose he moved up the aisle, managed to open the door, was on the platform and would have been pitched to Kingdom Come as the ramshackle train rounded a sharp curve, had not a white-faced brakeman grabbed him, thrust him back into the car and, with a string of New England profanities, wanted to know why in thun-
He'd drive 'em, he said; he'd learn 'em what a day's work meant when they worked for him, he would; and so on, excitedly. The child took no interest in this and wandered back to his mother, who, having observed him in safe hands, had not troubled. He started in to tell her all about his new friend, what a great man he was, that he wore three woolen under-shirts in winter, and knew the name of every station, and all about links and pins, and engines and telegraph and everything, until Mamma wearily turned toward him and gasped: Louis! Louis!! Mon dieu, you are a pest! Louis thought it strange that his mamma was not interested in what interested him, yet failed to reflect that the brakeman's get-rich-romance had bored him. So on went the train swaying, rattling, banging, clanking, sinking suddenly, rising suddenly, screeching internally around the curves, amidst smoke and dust and an overpowering roar. Soon there were two bedraggled ones sweatily sleeping side by side, and from the roar unfolded for one of them a dream of much mixed up brakemen, wheels, engineers, telegraphs, wood, links, pins, firemen, trucks—but no conductor: the conductor had not interested him, for he had a big belly, a heavy gold watch chain across it, gray chin whiskers, wore spectacles and did nothing but walk up and down, punch tickets and stick bits of card in people's hats. Faintly the brake-wheel creaked; and a distant voice seemed to call the name of a station—NEWBURYPORT!!

The town, in, by and of itself, made no first impression on him, other than one of quiet commonplace. It was not very different from the village of South Reading, only it was larger and had more streets and houses.

The family had taken quarters in an old-looking building called a hotel—a word new to the child. The hotel fronted on a square in which were trees, and on the other side of the square but not opposite the hotel was the town hall, and in front of the town hall was the town pump—of which, more later. Thus the family “boarded” at the hotel. The dining room was a large dreary cave containing one long table at which the boarders sat facing each other. From the middle one could not see the ends of the rows of vacant sallow faces. The family had places in the middle—Louis sitting next to Mamma. He was hungry—always hungry. It was their first joint struggle against dyspepsia. Not much was said for a while; then Louis, in confidential tones, suitable to a pasture, uttered this sage judgment: “Mamma; this gravy isn't like Grandmamma's gravy; this is only just a little flour and water!” Mamma made big eyes and grasped his arm, a titter went along the opposite row, napkins to faces, whispers exchanged, some rude persons laughed, and some one said “Hurrah!” Lucky Grandpa wasn't there—the ceiling would have fallen. Everybody was
stunned at the child's bravado, but assent was beaming. Perhaps, even, they yearned for some of Grandmamma's gravy; why not: if they but knew. The child looked at the opposite row of faces in astonishment. What was it all about? If the gravy was only a little flour and water, why not say so? Besides, he was only talking to Mamma anyway. And moreover he did not see anything to laugh at, at all. It was a serious matter, this flour and water.

Mamma said she would tell him something after a while when they were alone. And she did. According to her view, children, in public, should be seen but not heard; they should speak only when spoken to; they should be well mannered, circumspect; they should especially be respectful toward their elders; they must never put themselves forward, or try to be smart or show off, or otherwise attract attention to themselves; must remain in the background; speak in subdued tones and say: "yes, sir," "no, sir," "yes, ma'am," "no, ma'am," and she thus went on setting forth a complete code of ethics and etiquette for children in general and for her child in especial particularity, for she trusted he would not become, so she said, a young ruffian like other people's children that were devoid of table manners in particular, and used the language of the streets. This was Mamma's theory. In practice she vacillated, oscillated, vibrated, ricocheted, made figures of eight and spirals in her temperamental emotionalism and mother love, meanwhile clutching at the straw of her theory. And this was not all. Secretly she kept a note book. In this she entered carefully and minutely all the wonderful sayings of her son as observed by herself, or as transmitted in long letters from Grandmamma. True to form, she immediately entered the gravy item, wrote a long letter to Grandmamma about it, confessed she nearly strangled in suppressing her regret at the absence in him of the sense of smell. But in her secret book she gave way to self flattery. He gloried as he felt beneath him the powerful heave and sink and heave of a fine swimmer, as he grasped his father's hair, and saw the bank approach. On land he took note of his father's hairy chest, his satiny white skin and quick flexible muscles over which the sunshine danced with each movement. He had never seen a man completely stripped, and was pleased and vastly proud to have such a father, especially when the father, an object lesson in view, made exhibition dives and swam this way and that way in little mastery. And he asked his father to promise him he would teach him how to do these things, that he too might become a great swimmer. For he had a new ideal now, an ideal upsprung in a morning's hour—a vision of a company of naked mighty men, with power to do splendid things with their bodies.

The return journey passed quickly and excitedly. Would Papa take him again to the pool? Yes, Papa would take him every morning to the pool. And would he have to swallow any more salt water? Not unless he opened his mouth at the wrong time. And why was the water salt, and why did it tingle the skin so queerly? Because it was sea water. And why was the water salt, and why did it tingle the skin so queerly? Because it was sea water. And why was the water salt, and why did it tingle the skin so queerly? Because it was sea water. And why was the water salt, and why did it tingle the skin so queerly? Because it was sea water. And why was the water salt, and why did it tingle the skin so queerly? Because it was sea water. And why was the water salt, and why did it tingle the skin so queerly? Because it was sea water. And why was the water salt, and why did it tingle the skin so queerly? Because it was sea water. And why was the water salt, and why did it tingle the skin so queerly? 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had even then begun their work; lots of milk, some brown sugar, plenty of greens and fruit, potatoes only when baked, or boiled in their jackets and so eaten, no greasy things; and at times a tiny sip of claret as a bonus. His time-law for young people was: taps at eight o'clock, reveille five o'clock. He put his son through a fine and highly varied course of calisthenics to make him supple and resilient. He took him daily to the pump and the pool, made him vault fences, throw stones at a mark; taught him to walk properly—head up, chin in, chest out; to stride easily from the hip, loose in the shoulders. And the child worked with gusto; it became play; for the father did all these things with him jointly—they even ran races together, and threw stones at marks, in competition. Surely it was intensive training; but Father was wise in these respects: he knew that where there was hard work, there must also be leisure and relaxation, and time for carefree play. Father was forty-five then, and wondrous wise for his day and generation. To be sure his profession gave him the time to spare.

So, the family frequently went a-picnicking to the lovely banks of the Merrimac River, and elsewhere to shady groves and beauty spots.

This Sunday, it was the first trip to the Merrimac—a clear, calm summer day, not too warm.

They found, at a bend of the river, a bit of green-shade, sufficiently shaded, yet leaving an open view of the woods across the water.

The great stream flowed by tranquilly; its dark brown mirror solemnly picturing woods and sky.

The child had never seen a river. Was it not wonderful, this river so wide, so dark, so silent, so swift in its flow? How could such things be? Why had he not known?

Here and there a small fish jumped, leaving a pretty circle of ripples where it fell; and then arose on the surface of the water's edge, musing about South Reading, recalling his rivulet, his dam, his marsh. How small they seemed. And then there arose his tall, slender elm, his great ash tree to comfort him. Mechanically he ascended a hill, entered a heavy grove, musing, as he went, upon the great river Merrimac; lost in the thought that the world about him was growing so large that it seemed out of proportion to him—too great for his little size, too bewildering for his untutored mind. Meanwhile something large, something dark was approaching unperceived; something ominous, something sinister that silently aroused him to a sense of its presence. He became aware; he peered through the foliage. What was it? He could not quite see; he could not make out; except that it was huge, long and dark. He thought of turning back, for he was but a little boy, alone in the woods bordering a dark-running river whose power had stilled him, and the lonely grove that stilled him; he was high strung with awe; he could glimpse the river; he was moving forward, unthinking, even while he thought of turning back. The dark thing came ever nearer, nearer in the stillness, became broader, looming, and then it changed itself into full view—an enormous terrifying mass that overhung the broad river from bank to bank.

The child's anxious heart hurt him. What could this monster mean? He tried to call for Papa, but found no voice. He wished to cry out but could not. He saw great iron chains hanging in the air. How could iron chains hang in the air? He thought of Julia's fairy tales and what the giants did. Might there be a fairy in the woods nearby? And then he saw a long flat thing under the chains; and this thing too seemed to float in the air; and then he saw two great stone towers taller than the trees. Could these be the giants? And then of a sudden, mystery of mysteries, he saw a troll, not much bigger than a man, come out of the fairy forest, driving a fairy team. The troll went right across on the flat thing that floated in the air, and vanished. This must be the land of enchantment that Julia told about. A wicked wizard has done this thing. A giant will come soon to eat up a little boy. And the trees murmured: "Yes; a wicked wizard has done this thing—a giant will come to eat up a little boy—goodbye, little boy"—and the river said: "goodbye little boy"—and the great iron chains said: "goodbye little boy." The child shrieked: "Papa! Papa! Papa!" Instantly Papa appeared—ah, the good fairy had waved her wand in the enchanted wood! Papa had become concerned at the child's long absence, and was angry that his son should have gone away without asking permission. He had intended to spank the child; but one look at that upturned face, at those eyes glazed with approaching madness halted him in alarm. "What's the matter, Sonny? Did something frighten you?" "Oh, Papa, Papa, see the big iron chains hanging in the air, see the two giants turned to stone,
see the flat thing floating in the air. A troll just came over it with horses and wagon. I am to be eaten up by a giant. The troll with the magic wagon is coming to get me now. I am to be eaten by a giant, Papa; the trees have just said goodbye, little boy; the river has said goodbye, little boy; Oh, Papa, did the good fairy send you to save me?” Papa, thoroughly alarmed, impulsively said: “Yes, dear”; then, soothingly: “Sonny, you must not listen any more in memory to Julia’s Irish tales. They are not true, now. There are not any giants or goblins, or trolls or elves or even fairies any more anywhere. They lived only in people’s fancy long ago, when Ireland was young. It is only the tales that are told today—for the Irish have ever loved romance. Their heads are filled with queer notions. They imagine things that are not so. Papa lived in Ireland once; he knows what is true. Now we will go to the bridge and see it all.” “And what is a bridge, Papa?” “That is what you are to see. Don’t be afraid. It won’t hurt you.” So they went to the nearby bridge. As they crossed to the Amesbury side the Father felt the nervous clutch of his child’s hand about his forefinger. His own mind began to clear; now the child’s mind must be cleared. So he explained that the roadway of the bridge was just like any other road, only it was held up over the river by the big iron chains; that the big iron chains did not float in the air but were held up by the stone towers over the top of which they passed and were anchored firmly into the ground at each end beyond the towers; that the roadway was hung to the chains so it would not fall into the river. That the bridge was so strong that many people and loaded teams could pass over it at one and the same time; and as he said this, happily some teams and people came and went. Father was clever in making simple explanations of things he knew something about. This expertness came of his long training in teaching little tots to dance. His skill and patience in this respect were fine art. So, gradually, he brought his son out of nightmare-land into the daylight of reality. For shameful fear, he substituted in his son’s heart confidence and courage. Thus was the child-mind freed again to wonder what men could do; to adjust itself to the greater world into which it had been suddenly catapulted from South Reading’s tiny world. Within that little spot of earth he had never seen a river, never a bridge, for neither river nor bridge were there to be seen. On their way to rejoin Mamma, the child turned backward to gaze in awe and love upon the great suspension bridge. There, again, it hung in air—beautiful in power. The sweep of the chains so lovely, the roadway barely touching the banks. And to think it was made by men! How great must men be, how wonderful; how powerful, that they could make such a bridge: and again he worshipped the worker.

Mamma had become alarmed; but Father, on the approach, gave her a hush-sign. Evening was on the wing; dew was in the air; dark Merrimac still flowed, sturgeons still leaped high, a cricket chirped its first, cheerful note. They returned to the dismal house of flour and water.

The child was soon abed; the father sank into deep thought: this would never do; the boy must be protected against himself; he was overexcitable; he must not be let go into the woods alone, nor near any mystic thing. His blood must be cooled—more water; no meat; his mind must be directed to everyday things; he would take him into the active world, to the shipyards, to see ships a-building; he would take him to Plum Island, to get the salt sea air, to see the real ocean, with its ships coming and going under full sail; he would explain all these practical things to him and keep his mind wholesome; he must be educated to realities, disciplined, shown life as it is. And Father, thus ruminating, turned in.

Now they are at the shipyards, father and son. Four or five ships are in progress on the ways; others are being rigged in the slips. One is a skeleton, another almost ready to launch. There is much hubbub; men going here and there. The strident song of the caulk-iron saws the air; ador of tar everywhere; fine view of the harbor, craft of all kinds moving this way and that—some at anchor. Here in the shipyard were crowds of men working, doing many things, all moving at the same time—all urging toward a great end. The child was in a seventh heaven; here were his beloved strong men, the workers—his idols. What a great world it was into which he had been thrust—the great river, the wonderful bridge, the harbor, the full rigged ships so gallantly moving. And what new words too—circulation, calisthenics, catenary, dietary, suspension bridge and others, that seemed very long, very strange indeed. Was he also entering a world of words? Were there many more such words? Eagerly he watched a man working with an adze. The man was lying on his back and chipping overhead. Then the man turned on his side and chipped sidewise; then he chipped between his feet and in front of his feet. Was it not wonderful? He had never seen an adze, nor a man at work with an adze. Here, the man took off heavy chips and there only thin shavings; was it not wonderful? He wished to talk to the man, but the man was too busy; perhaps the man wished to keep his feet to walk home with. And the other men were too busy to talk to him; they did not seem to know he was there, except one man near a kettle of hot tar who told him to get out of the way. And there were men boring holes in great planks; other men steaming planks, other men carrying planks, other men bending the planks against the ribs of the ship, other men driving in with sledge hammers great iron bolts to keep the planks in place, and these men,
he guessed, had no time to talk to him. He wondered why the ships were all set stern-end toward the water. He wondered how "they" were going to get them into the water. And there were men who drove oakum—a new word—into the joints between the planks. They did it with a thin wedge and a funny looking mallet, and made a sound that beat upon his ear drums. He could get near enough to some of these men to talk to them, but they were too busy to hear him; and he saw men painting another ship which was all ready to be pushed into the water. And there was such a rush and crowd of things that were new to him that he was joyfully dazed—very happy, very serious.

He had his first view of the power of concerted action; but he did not look at it that way. To him it seemed the work of individual men working separately, or of small groups of men helping each other—a great crowd of men each doing his own work in his own way. To be sure, he saw men speaking about who spoke to the workmen, and the workmen always had time to listen to these men. In the great confusion he had not sensed order, and therefore did not ask Papa about it. Yet he saw the ships grow, and saw the workmen make them grow.

He walked all over the place with Papa, ever inquisitive, peering here and there. The hum of work was everywhere. He keenly sensed its greatness. What could men not do if they could do this, and if they could make a great bridge—suspended in the air over the Merrimac. He poured forth his questions and Papa answered them pretty well, but a bit pedantically. He concealed with them what he did not know.

A few days later father and son saw the launching of a ship, and the child had another spasm of wonder, for the ship seemed to him to launch itself; he did not see any men pushing it, and Father recited somewhere he was not posted. He used too many big words. The ship seemed to him to launch itself; he did not look at it that way. To him that he was joyfully dazed—very happy, very serious.

And soon the child began to tease to be taken to Plum Island, to see the ocean his father had talked about. Strangely enough there wasn't any ocean at South Reading, any more than there was a great river and a wonderful bridge there; any more than there was a great shipyard and a great harbor. At South Reading there was only a railroad and two ponds—a big pond and a little pond and some hills. So the son, accompanied by the father, went to Plum Island, for he had said, "This is to be mine, isn't it, Papa?" And the father had relaxed at the idea.

There they stood, in a stiff salt breeze, on the sharply sloping rounded beach; some drifting clouds in a pale sky, some ships in the offing. True, he had seen the ocean at Cape Ann, seen it in furious, terrifying, storming moods, seen it as huge glossy ground swells, as glancing, dancing wavelets in the sunshine; but that was long, long ago when he was three; he had wholly forgotten what happened when he was three—and four—and five. He had forgotten even that he had fallen into a well there. He had, like the workmen in the shipyard, been too busy—all these years, these months, these days.

Even South Reading was fading, before the glory of the new-risen day; this engulfing splendor of Newburyport, as they stood there, on the hard wet sand, two figures solitary, a mere speck, a minute accent on the monotonous miles of beach and pounding surf. The child looked far seaward, without emotion, save a sense of dull platitude, of endless nothingness, of meaningless extension. The sea was merely rough, without mood, dull in color, spotted here and there by a cloud's shadow. It left him indifferent, all except the green and white combing surf which was in merry mood. He wished to wade in but Father said positively no, the beach was too steep, the undertow too strong. Undertow? Undertow?—another word—more explanations. He built sand forts which the rising tide made short work of; he ran up and down the beach, waded in the dry sand, found some wild cranberry bushes. He ran back to Papa who was wrapped in thought, standing with folded arms, facing the sea.

Far to the east, far over the waters lay Ireland, he said to his son. The son looked for Ireland; it was not to be seen; but he cried out of a sudden: "Papa, some of those ships are sinking! One is all gone but the top of the masts; one is just beginning to sink!" Father, who wished to educate his son, now found his work cut out for him. How explain the curvature of the sea? How explain the horizon? How prove that the ships were not sinking? He went at it bravely, patiently, doggedly, step by step; he even made diagrams on his drawing pad. Little by little the child grasped the idea; he brightened with intelligence. His Father had opened for him then and there a new, an utterly unsuspected world—the world of pure knowledge—vaster than the sea, vaster than the sky.

And the father had relaxed at the idea.

Now it was time to return to Boston. The school must open soon. In the bustle of preparation the day he was seven passed unnoticed even by himself. Newburyport departed—Boston came.

(To be continued)
A Dutchman was showing the sights of Amsterdam to a New Yorker. It was not the churches and museums or the bourse and office buildings that he pointed at with pride—New York, he knew, had more architecture that was monumental. It was Amsterdam, the living, growing, modern city that he was showing; blocks and blocks of orderly arranged homes, planned and started at the time that New York could devise no means of building for the homeless and yet could create gigantic garages and office buildings. The Dutchman tried to explain: "You see Holland is a poor country—we cannot afford monumental buildings—so we erect homes for the people."

Following the great war the long existing shortage of dwellings reached a climax in practically every city of the western world. Neutrals and participants alike suffered. Very few homes had been built during the war. Materials and wages rose in Switzerland and Holland just as they did in England, France, Germany and here in America. Each country tried to find a solution of the resulting abnormal scarcity of houses.

This is the tale of two cities, two great cities tested by the same emergency—two port towns that once bore names so similar—Amsterdam and Nieuw Amsterdam—and the way in which they handled the housing dilemma. Both are growing industrial cities; both owe their success to their splendid harbors. Nature has been more bountiful to the city of the new world. The extent and safety of its navigable water front are unsurpassed. It has solid land and rock on which to build. Amsterdam has been forced to make a sub-structure of piles on which to erect its city and to dig out much of its water basin. Transportation within New York is mainly by streets; in Amsterdam by canals. The Dutch city grew from a single island outward like a spider's web. Its dimensions gradually increased by a series of arcs of which its bay is the chord. Each arc is marked by a canal bordered by narrow tree lined streets. All are connected with the center by radiating roads and canals. No city has a more definite pattern—no city but New York. But what a different pattern! New York is the monotonous checker board without purpose or beauty. Manhattan (which was Nieuw Amsterdam, glories in its Broadway towers and Fifth Avenue show-windows that speak of the wealth and success of its merchants. Old Amsterdam was no less proud—but less ostentatious. The wealth of its merchants was satisfied with the simple, austere houses—each with its shining windows and polished brasses—that line the Single, the Herengracht and other canals. Both cities were alike in one thing—they crowded their poor into the dilapidated left-over houses in the heart of the business section.

In spite of the war the two cities continued to prosper and grow. Their populations increased. More houses were imperative—yet in old Amsterdam as in New Amsterdam, the speculative builders who had supplied most of the houses in the past would not build. Costs were high, said the Dutch speculator—they would wait until they came down. And so they said in New York—for after all, neither here nor there were the speculative builders in business to see that there was an adequate supply of houses—but to make an adequate profit. Speculative builders are the same the world over.

As to the emergency—Amsterdam was alert. New York had to be awakened to it by the cries of a class of people who had never felt the pinch before. If before the war, these New Yorkers had thought of the housing problem, they thought of it as something to be cured by law—the great American panacea. So they passed restrictive legislation and gave not the slightest thought to any constructive action. Something that was called the "law of supply and demand" was supposed to produce the needed homes, and so it did—for the well-to-do—in a quite unsystematic, tasteless and wasteful manner.

But the poorer half of the population could afford nothing but the worn-out houses that fell below the legal requirements for new dwellings.

Amsterdam was better prepared for the housing climax. When speculative builders ceased building for fear of lack of profits, the people of Amsterdam didn't resign. They didn't throw up their hands and say "no profits, no houses." They had already tried out their emergency machinery—its elements had been long in existence. Dutch municipalities long have had the powers needed to secure homes for the people—in fact they had never been deprived of them, for they are considered by the Dutch as natural and inherent in any social fabric based upon the needs of men. Any city in Holland could acquire land for housing, build houses or lend money for that purpose. The national housing legislation of 1901 compelled cities to pass housing and building laws, to appoint housing committees and to make city plans. It also offered state aid in housing in the form of loans to local governing bodies or to the housing societies, which are similar to the British Public Utility Societies or our Limited Dividend Associations. These were able to borrow from the government as much as 100 per cent of the cost of the houses they erected. The rate of interest was fixed by the market rate of the state debentures on the Amsterdam Exchange. The loans, which were for a period of fifty years, were made by the national government, through the municipality, which was held responsible for the repayment. The societies are semi-public institutions. Their capital and their profit above that used in paying their limited dividend (4% until 1921—now 6%) can be used only for housing improvement. They cannot make a profit on homes; neither can those that dwell in the houses, whether the society be cooperative or not, and many of them are; the government will not permit occupants of the houses to resell their dwellings. If they no longer wish to occupy them they must return them to the societies—for the house is not a commodity to be bartered. Housing in Holland—anyhow, for the manual worker—has for many years been looked upon not as a speculative busi-
One of the Gateways to New Amsterdam

Photograph by Henry Boak
ness but as a service essential to the welfare of the community.

Up to the war the societies had been increasing their usefulness from year to year, although the speculators, up to 1914, built by far the greater part of the houses in Amsterdam. Then on account of the rising costs they found the risks too great and in 1915 the societies erected 1,638 houses while the builders put up only 634. However, in spite of all the advantages of the easy terms of government loans the societies found themselves unable to continue their work and their production fell off from year to year. Meanwhile the shortage of houses became a matter of public concern. Houses that had been condemned as uninhabitable were occupied. Families doubled up; a great part of the newly married couples were unable to secure separate homes.
LOWER NEW YORK FROM THE WATERFRONT
Henry Boak
General Plan of Stadium Housing Development, Amsterdam
It soon became apparent to every one of intelligence in Holland—as it might have in America—that houses were not being built because most workers could not possibly pay what is called an economic rent based on the inflated cost of building and the increased interest rates. Amsterdam and Holland faced the problem in a very practical way. Houses they must have. An economic rent could not be secured. So in 1919 the government decided to pay as a subsidy to municipalities or societies on all houses they erected the difference between the economic rent and the rent that a worker could afford. Three-quarters of this subsidy is paid by the nation, the rest by the city; it is given, however, only on condition that a reasonable rent is charged. The rents are fixed on the basis of one-sixth or one-seventh of the income of the tenant. Perhaps such drastic action seems to an American to be contrary to that spirit of independence which we would engender in every citizen, by pretending that he can without any cooperation take care of himself and his family under the rules of an economic system where the odds are all against him. Anyhow, it seemed to the Dutch—who are by no means lacking in self reliance and independence—the common sense way of meeting an existing problem.

As a result of emergency legislation passed in 1918 not only did the societies actively enter the field again but the municipal government also commenced to build directly. From 1918 to 1921 the city erected 2,169 houses while the societies constructed 3,705. There are today 1,058 municipal houses and 3,019 housing societies' houses in course of erection and both the city and the societies have more than doubled the numbers of dwellings planned. Supervision of the construction of all these houses, those of the societies as well as of the city, is under the control of the municipal housing department, which must approve all designs. In case a society fails the municipality must accept financial responsibility; in short, the responsibility of this whole colossal housing operation is centered in the housing department of Amsterdam, directed by a big calibre architect—Keppler by name.

In spite of the opinion of many of those who have had most experience and who have given most thought to the matter—that housing should be a service and not a business—the government ultimately decided to offer assistance to private builders. The speculators who had built 3,504 houses in 1912 and 1,756 in 1914 erected only 17 in 1919. At first the subsidy offered was based on the difference between the real cost at the time of erection of the building and the cost on which an economic rent could be charged—and there were certain restrictions as to the rental. These restrictions met with strong objection from speculators and they succeeded in having the law revised in 1920. The new subsidy is a fixed amount for each square meter with a maximum which was at first F2,000 ($800) and is now F600 ($240). The private builder may also borrow capital on mortgage from the government for fifteen years at 6 per cent. This capital is paid by the government to the city, which may accept or refuse the responsibility of lending it. In spite of all these inducements the private builders are erecting fewer houses than the societies or the municipality.
COMPLEX ARBEIDERSWONINGEN IN DE UITBREIDING ZUID VAN HET STADION TE AMSTERDAM

DETAILS OF THE STADIUM HOUSING DEVELOPMENT, AMSTERDAM
AMSTERDAM—OLD AND NEW

Land was not wanting on which to carry out the great housing program of Amsterdam. This wise city for many years has been acquiring land. The State did not have to confer this right on the cities of Holland, for housing and all that is needed to carry it out is considered necessary on behalf of public order, morality and health. But the housing act of 1901 extended and amplified the compulsory land acquisition act of 1851 so as to facilitate the taking of land for slum clearances or carrying out of large scale housing schemes. The basis of valuation is that at which the land might have been sold within a period of six to eighteen months before the preparation of plans. Amsterdam is beginning to see that the only way to control the growth and the future appearance of the city is for the municipality to own all the necessary land and the city is acquiring a ring of municipal land around the old city, and already owns 1,200 acres. Of this 600 acres have been leased to Public Utility Societies for periods of 50 to 75 years. The policy of Amsterdam is to lease and not to sell its land!

In New York the building of homes had ceased in 1916. Gradually the badly planned, the poorly lighted, the dilapidated houses that had stood empty for years were filled. Landlords did not at once discover that it was their inning—that the “law of supply and demand” was working in their favor. But when they did they were not slow in acting. Rents soared. The newspapers howled against the unjust raising of rents—rent strikes were called—the legislature appointed a commission to investigate rents—the Mayor appointed a powerless rent committee. No one, not even the cleverest newspaper reporter, seemed to connect rents with housing scarcity. And what was the use? There was no profit in building houses when the prices were at the top and no one knew when they would drop. Any builder would be a fool to build at such a time unless he was in business to lose money. And who would lend him money if he did not want to build? Not the insurance companies or the loaning institutions. Their representatives appeared before the Governor’s Reconstruction Commission and explained that they did not have the money—it was invested in Liberty Bonds—anyhow they could not risk it under present conditions—it was the people’s money, not theirs. So the people went homeless or borrowed half of a worn-out home.

And the Mayor’s Rent Committee bullied or persuaded landlords and tenants to compromise. And the Legislative Committee on rents after perspiring through endless hearings discovered that it was dealing with a housing scarcity, not a landlords’ conspiracy. The stenographers had filled many neat volumes with lengthy questions and answers—the newspapers had many front page leaders and laws were passed at Albany restricting rents and permitting the lending of money that would not be lent.

Governor Smith’s Reconstruction Commission alone treated the dilemma as a housing emergency. After pointing out that “the present crisis was the result of past tendencies” and that its fundamental causes were “no different than the causes of the evil housing conditions
The type of Tax-Exempt Apartments being erected by the hundred in the Borough of Queens, New York City. These five rooms rent for $45 to $50 a month. They are practically the only living places which come within the income of working men—and only skilled workers can afford them. These three-story buildings afford approximately as much light and ventilation as did the dumb-bell apartments which were made illegal 20 years ago.

At the left—Characteristic six-story apartment now being built in the Borough of the Bronx, New York City, to rent for approximately $1,000 a year.
DOWN TOWN NEW YORK

Henry Boak
month and the poor and the poor middle class continued to live two families in a house—in any old, dilapidated house.

Then for a year or so one Untermeyer held the middle of the stage. He induced everyone, builder, manufacturer, laborer and capitalist, to admit that he had been a criminal and would never do it again. The price of materials dropped in New York—but curiously enough with no Untermeyer in Amsterdam prices also fell. Yet, in New York the poor and the poor middle class are still huddled two families in an apartment and no one is building homes for them.

What has been the result of the mad building of the past year which must at least be paid for in part by the citizen of New York? For tax exemption is a subsidy. That which the owners of the new houses do not pay must be paid by the other property owners. The tax exempt house will require, ultimately, more sewers, transit, roads, police, firemen, street cleaners,—and for these the community must pay. What is it getting in return? Houses, yes—but such houses. They

that have long existed in the state"; the Commission suggested a constructive program:

1. Housing and city planning Commissions and Committees for the State and Cities.
2. The lending of state money for long terms at low rates of interest.
3. Municipal ownership of land on which the municipality or others might erect houses.

This program that would have seemed so feeble in Holland was altogether too revolutionary for New York. Rather no houses than take the business from the speculator. He must be revived and brought back into the building game. So it was finally decided that a bonus should be offered, one that didn’t look like a direct gift, for it would not do to admit that the State or City was taking a part in housing—it would not do to admit the fact that an American citizen could not pay for his own home—that the government had to help him out. So the bonus was camouflaged—it was called “tax exemption.” This subsidy was not to be given to the poor worker, white collar or otherwise. It was for the builder or landlord. He could charge what rent he wanted—and apparently he wanted everything he could get. Why not? Is he not in the housing business to get as much profit as he can. At any rate when the tax exemption buildings were completed they were let for twenty, twenty-five or thirty dollars a room per week.
DETAILS OF HOUSING BLOCK, AMSTERDAM

M. de Klerk, Architect
DETAILS OF HOUSING BLOCK, AMSTERDAM
M. de Klerk, Architect

Photographs by F. R. Verbury
APARTMENT HOUSES FOR THE QUEENSBORO CORPORATION.
Jackson Heights, New York City. Erected 1922.
Andrew J. Thomas, Architect
BIRD'S-EYE VIEW OF APARTMENT HOUSES FOR THE QUEENSBORO CORPORATION, JACKSON HEIGHTS, NEW YORK CITY
Andrew J. Thomas, Architect

VIEW OF STREET ELEVATION. FIRST GROUP OF APARTMENT HOUSES FOR THE QUEENSBORO CORPORATION, JACKSON HEIGHTS, NEW YORK CITY
Andrew J. Thomas, Architect
are no better than the law requires—apartments with dingy courts and rooms that look out on nothing but monotonous walls and windows; or worse still, apartments in which most of the rooms look out on a tiny shaft which gives but a glint of light and no air. Ugly affairs with no technical skill wasted on them. "An Architect" so called was employed at a cut rate, for which no adequate services could be given. Apartment houses all alike set on sloping streets, flat streets, on the top of rocks, cheap in design and shoddy in construction. The one and two family houses are no better.

Over in Long Island City are rows of cheap boxes defacing the farm and woodland. To think that the people of New York had a chance to really design the part of the city that has been constructed during the past year! They were helping to pay the bill. They could have organized and directed the effort so that it would have added to the beauty of New York and to the happiness of those that will live in the new houses.

A few exceptional developments stand out in contrast to all this haphazard building. The Queensboro Corporation and the City and Suburban Homes Company have had vision enough to build on a large scale and in a less congested manner than the typical narrow lot apartment. But neither of these companies has been able to build at a cost that would permit them to sell or rent except at high prices or big rentals. The Metropolitan Life Insurance Company, which has secured the permission of the State Legislature to invest a portion of its capital in constructing large groups of apartment houses, intends to build homes that will have light, air and the sight of green and yet will be rented at a reasonable rent, as compared with the rentals that the speculative receivers of municipal bounties are charging. But houses renting at nine dollars a room per month would hardly be called workers' homes in Amsterdam!

But even if these experiments do not succeed in relating rents to working men's incomes, they are particularly interesting because trained technical skill has been used to meet the problems of housing on a large scale in New York. It is to the credit of a group in the architectural profession, and to the Journal of the American Institute of Architects that the designer of these apartments, in his many years of unselfish effort to develop a type of New York apartments that would have air, light and sunshine at a minimum cost, has had the loyal backing to see him through.

This is all that New York has secured after three years of investigation and legislation! It had no understanding of the housing problem in 1919—it has none now. The city seems destined to continue to grow by the addition of one ugly mass after another at the whim of the speculator. And the horror of it is that his work will stand to haunt us years after we have discovered the need of united effort and technical direction in the building of our homes and our cities.

To one who hails from the city of haphazard building on narrow lots along monotonous streets it is a matter
of astonishment to find Amsterdam building not houses to sell or to rent, but a city to live in. Not only unified blocks but whole sections of the city—groups of five or ten blocks are being created at one time. The street layout of these new sections that surround the old city are quite different than that of Old Amsterdam. Instead of the ever repeating circular canals the new portions are laid out on streets. There are few broad avenues—the through traffic will apparently still be carried in and out of the city by water on the Amstel or the comparatively few canals that divide the newer regions. The roads are in the main straight and in many places parallel, but there is constant relief from the monotony of the checker board pattern. Small and large parks and playgrounds here and there add a foreground of green to the buildings. And all the blocks whether of single family, two family or apartment houses are built around great open courts. There is generally plenty of opening between the groups of buildings to let the air pass freely in and out of this garden block center. All these houses—whether erected by the municipality, the societies or builders borrowing from the government—must meet the approval of the city housing department. Apparently there is nothing bureaucratic about the department of which the energetic, broadminded Keppler is the head.

There is great variety in the external treatment of the new apartments that make up the larger part of the building now under way. These are examples of the old Dutch gabled architecture and many examples of a new type of design that cannot be classified. The younger architects have put aside all they knew about the past—columns, cornices, old forms of roofs and gables. They are modelling broadly with flat and curved surfaces of walls or windows, with voids and solids, with different materials. They are working with large masses, whole blocks of buildings, never single narrow facades. One smiles at first—youthful exuberance! But it is more than that. They are striving to find new forms—simple forms. They do not always succeed: some of their results seem ridiculous—others show charm and simplicity. But at least there is an effort to escape from the bonds of the past—to design—to find design in wall surfaces and materials instead of with applied borrowed ornament.

Even the private builders have apparently learnt that it is more satisfactory and economical to build on a large scale. They are building under trained technical guidance in units of a block or more.

So this is the tale of two cities and the housing emergency. It has no moral. Two cities met a dilemma in manner dictated by their past customs and point of view. Ultimately, they both succeeded in producing houses—in more or less sufficient quantities. In one city these houses were soundly built in an orderly manner with the aid of trained technical skill; in the other they were mostly shoddily built and spotted in a haphazard manner as dictated by the whim and the greed of the speculators. In the one case rents are based on the means of those who are to occupy the houses, in the other on the cost of the houses or the scarcity of homes—the rents have no relation to the income of any but the wealthy. Yet neither Amsterdam or New York has solved the housing problem. The odds against them are too great. It is not design or construction or loans or bonuses that will solve it as long as the income of workers and their standard of living remains so far apart. But Amsterdam has at least sensed the problem and is searching for a practical solution—New York does not even grasp the meaning of the housing problem.

### Number of Apartments in Tenements Constructed in New York City 1910-1922

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Apartments Constructed</th>
<th>No. of Apartments Demolished or Conveyed to Other Uses</th>
<th>Net Increase or Decrease in Number of Apartments</th>
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<tbody>
<tr>
<td>1910</td>
<td>32,113</td>
<td>4,960</td>
<td>+27,153</td>
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<tr>
<td>1911</td>
<td>32,673</td>
<td>4,371</td>
<td>+28,302</td>
</tr>
<tr>
<td>1912</td>
<td>26,763</td>
<td>3,473</td>
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<tr>
<td>1913</td>
<td>28,038</td>
<td>3,389</td>
<td>+24,649</td>
</tr>
<tr>
<td>1914</td>
<td>20,576</td>
<td>4,081</td>
<td>+16,495</td>
</tr>
<tr>
<td>1915</td>
<td>23,617</td>
<td>2,597</td>
<td>+21,020</td>
</tr>
<tr>
<td>1916</td>
<td>21,359</td>
<td>2,093</td>
<td>+19,266</td>
</tr>
<tr>
<td>1917</td>
<td>14,241</td>
<td>2,419</td>
<td>+11,822</td>
</tr>
<tr>
<td>1918</td>
<td>2,706</td>
<td>1,672</td>
<td>+1,034</td>
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<tr>
<td>1919</td>
<td>1,624</td>
<td>3,012</td>
<td>−1,388</td>
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<tr>
<td>1920</td>
<td>4,882</td>
<td>4,379</td>
<td>+503</td>
</tr>
<tr>
<td>1921</td>
<td>6,835</td>
<td>2,168</td>
<td>+4,667</td>
</tr>
<tr>
<td>Total</td>
<td>215,427</td>
<td>15,743</td>
<td>199,684</td>
</tr>
</tbody>
</table>

1. These figures do not include apartments in one and two-family houses for which no reliable statistics exist. The net increase of apartments in small houses over a period of ten years has been calculated as about 1/3 that of apartments in tenements.
2. Apartments in tenements in course of construction on June 30, 1922, as shown by the records of the Tenement House Department.
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Number of Apartments Erected in Amsterdam in Tenements or Small Houses, 1909-1921

According to the Statistics of the Housing Department (Gemeentelijken Woningdienst te Amsterdam).

<table>
<thead>
<tr>
<th>Year</th>
<th>By Private Builders</th>
<th>By Employers¹</th>
<th>By Limited Dividend Societies</th>
<th>Municipal</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Built with the help of government loans according to the housing law</td>
<td>Built with the help of loans from Governmental Postal Savings Bank²</td>
<td>Built with the help of loans from the Municipality</td>
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<td>By Limited Dividend Societies</td>
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<td>1909</td>
<td>675</td>
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<tr>
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<td>1,205</td>
<td></td>
<td>48</td>
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<tr>
<td>1911</td>
<td>1,988</td>
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<td>88</td>
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<td>2,342</td>
<td></td>
<td>753</td>
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<tr>
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<td>1,756</td>
<td>21</td>
<td>463</td>
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<td>1,227</td>
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<td>1916</td>
<td>929</td>
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<td>412</td>
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<td>295</td>
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<tr>
<td>1918</td>
<td>130³</td>
<td></td>
<td>821</td>
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<tr>
<td>1919</td>
<td>17</td>
<td>115</td>
<td>989</td>
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<td>—</td>
</tr>
<tr>
<td>1920</td>
<td>255</td>
<td>62</td>
<td>297</td>
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<td>—</td>
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<tr>
<td>1921</td>
<td>733</td>
<td>102</td>
<td>1,590</td>
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</table>

Totals 14,580 300 7,162 870 238 2,475 25,633

¹Dwellings built by employers and rented to their employees at low rentals.
²Amsterdam Company for the erecting of dwellings for laborers. (Decree of the town council, 16 September, 1874.)
³Blocks of temporary dwellings on the north side of The Y (the bay).
⁴Of these 348 semi-permanent dwellings (lifetime about 30 years) and 102 emergency dwellings built by the town.
⁵Of these 20 emergency dwellings built by the Committee for Belgium Fugitives. (Were pulled down in 1919.)
⁶Of these 184 semi-permanent dwellings.

Architects and City Planning¹

By THOMAS ADAMS

CHAPTER III

The previous article described the character of the instruction in city planning that might be given to architectural students in a limited lecture course of ten or twelve lectures during the final year of study for their Bachelor's degree. Obviously a course so limited could not lead up to any certificate of proficiency or be regarded even as a basis for specialization in town planning as a profession. The reason for restricting the course would be because of the lack of time available from other subjects. The object of the instruction would be to enlighten the architectural student more fully and more directly than formerly regarding the principles and technique of city planning.

There is a good deal of misunderstanding as to what city planning is, and the average student has only a hazy idea of its meaning. The want of knowledge, particularly of the sociological phases of city planning, has to be made good, and misunderstanding removed during the undergraduate period. The student should obtain some definite idea as to what part he has to play in co-operating with city planners or with engineers. Such a course then is useful in giving the undergraduate in architecture a wider outlook on the important social aspect of his profession and in indicating his limitations as well as his scope as an architect for dealing with the technique of city planning.

A limited amount of teaching supplemented by reading and, if practicable, a sufficient number of laboratory hours to enable one simple problem of city planning to be worked out should be given to all architectural students during the final year of their course leading to graduation. The comparatively small part of the academic year required to be given for this purpose should raise no serious difficulties.

Comprehensive Course

More extended teaching is, however, desirable where it is practicable to give it, but in this connection arise problems that require much consideration and are not easy to solve. Some part of the instruction hitherto regarded as almost essential has to be curtailed to make room for a full course on city planning, if the period given to undergraduate study is not to be extended.

For the present we are considering the needs of the undergraduate and not the post-graduate student, but...
ARCHITECTS AND CITY PLANNING

obviously we cannot decide what is best for the former
without regard to what courses the student may be
likely to follow after getting his Bachelor's degree. If,
for instance, a student takes only a limited course in
city planning before he graduates in architecture from
one of the lesser Universities or scientific schools, and
goes to Harvard or elsewhere to take a post-graduate
course, he will find his preliminary studies of some value,
whether he decides to specialize in city planning or not.
The proper value of city planning studies will, however,
only be realized if they have given the student some
definite knowledge, a good grasp of main principles and
important details, and not merely some historical infor-
mation and vague impressions derived from occasional
lectures and cursory reading. To obtain this proper
value of the extended course is needed.

Later on there will probably be created a post-graduate
degree in city and town planning at one or more Uni-
versities. When this degree is established, it will be
desirable to make the under-graduate course that leads up
to it much the same as that which leads up to a post-
graduate course in Architecture and Landscape Archi-
tecture, such as those provided at Harvard.

On the whole, it appears desirable that all students
for Bachelor's degrees who intend to take a post-gradu-
ate degree in Architecture or Landscape Architecture
should have given to them a liberal course of instruction
in the elements of landscape design and city planning,
and such a course will probably be adequate for students
taking a city planning degree if and when it is available.
Therefore, the introduction of a more or less extended
course of teaching in City Planning to undergraduates
should prove of value to all students who intend to go
in for a post-graduate degree. Those who do not intend
to proceed beyond the Bachelor's degree have, never-
theless, to go in for post-graduate training in offices to
equip themselves for professional work. They would
equally benefit from some training in the broader social
phases of architecture and city planning.

The question of what can give place to city planning
is one to be decided on its merits within each University.
If it is decided, as it has been at the Massachusetts In-
stitute of Technology, that an extended course be given
to undergraduates, then the question that remains is:
what should be the form and contents of the course?
It may be decided either to give a full year's work
in the final year or to spread the teaching over two
years. If the latter is considered desirable, the lecture
courses would have to be arranged at different periods
for each group of students, but the laboratory work
could be carried on simultaneously. If we assume that
the work is entirely done during one year extending
from October to December, we have next to consider what
would be a reasonable arrangement of lectures and labora-
tory work.

It is suggested as a beginning, until further experience
is gained, that thirty lectures and forty hours work in
the laboratory be given as follows:

October to December—Ten lectures at the rate of one
in each week on landscape design and elementary phases
of site and town planning, supplemented by twenty hours
in the laboratory working out a simple problem.

January to March—Twenty lectures on the history,
principles, and technique of city and town planning, sup-
plemented by twenty laboratory hours and a civic survey
of an area with which the student is acquainted.
At the conclusion of the course an examination would
be held, and full credit given to the student.

The aim would be to give the student who graduated
some definite knowledge of the subject, and its relation-
ships as they have been described in these articles. The
sociological aspects of the problem of city development
would be kept before the mind of the student throughout
the courses. The teaching would necessarily be ele-
mentary in its scope but need not be superficial. The
student should be encouraged to use his own observation,
to think independently, to express himself in brief reports
and discussions, and to form definite ideas. The knowl-
edge gained, however limited, would be invaluable if it
were used as a basis for observing and studying, in the
right perspective, the many examples there are of good
and bad conditions, lost opportunities and of misdirected
efforts, in connection with the physical and social growth
of the modern city.

Coming to the matter of the contents and arrange-
ment of the course of lectures, there is room for con-
siderable variety of opinion according as one might be
influenced by adherence to what is most logical or most
expedient.

An Interesting Programme

An interesting programme of twenty-four lectures
has been proposed by Professor Adrian Berrington for
the students of architecture and engineering of Toronto
University. Professor Berrington divides the suggested
lectures into two groups, one of twelve dealing with
"The Regional and Civic Survey" and "Methods and
Application" and a second twelve with "The Technique
of Town Planning." The first group deals with:

(a) The Region (Regionalisme)—its character, the
geological, geographical and other aspects of survey, and
maps and models;
(b) The Existing Plan—the nature of the plotting or
sub-divisions, values of land, heights and densities of
buildings, supply (including collection), and centres of
accrretion and distribution;
(c) Communication (the matrix of the whole)—roads,
 railways and waterways;
(d) Civic Self-Control—local government, assess-
ment, ordinances, town planning laws, private property
and public interest.
(e) Vital statistics—as revealed by census and in con-
nection with homes and recreation.

The second group deals with the technique relating to:

(a) Housing and Homing—natural and assisted devel-
opments and garden suburbs and garden cities;
(b) The Satellite City;
(c) Zoning or planning widely—natural zoning, causes
of present troubles, remedies, and extensions and limita-
tions of idea;
(d) Road, railroad and waterways—through-ways,
methods of plotting, types, comparisons of square, radial
and natural plans, technique of crossings, sidewalks, etc.
The proposed course was to be supplemented by diagram, plan and picture, and accompanied by laboratory work. The syllabus was suggested as an option in town planning for fourth year students in both architecture and engineering. Under the arrangement, if carried out, architectural students were to receive a short course on the General Principles of Surveying, while civil engineering students were to receive a short course on the History and Principles of Architecture in the first term. Both classes of students were to have the regular lectures on Highway Engineering, Sanitary Science, and other subjects as at present taught. It was proposed that the student make a civic survey of an approved social or geographical unit together with reasoned suggestions for improvement of one or more features and prepare an account of his work as a thesis. Under this arrangement which entailed 35 hours work in each week during two terms devoted to town planning, and to modifications of regular courses on architectural and engineering subjects to fit in with the instruction in town planning, it was apparently intended to prepare men for professional positions as town or city planners. It would undoubtedly be better to limit the instruction during the undergraduate period to laying the foundation for a post-graduate course leading to a Master's degree.

(To be continued)

Architecture and the Public Press

I. A Recent Episode

The General Convention of the Protestant Episcopal Church, in 1919, created a Joint Commission on Church Architecture and the Allied Arts. The reasons for this action are very clearly set forth, as are the objects desired, in the following Resolutions:

Report of the Joint Commission on Church Architecture

At the General Convention of 1919, the following was adopted:

"WHEREAS, On the part of the clergy and of the laity, there is, in this Church, a need of fuller information as to what constitutes the fundamental principles which should govern the plan, the design and the decoration of churches, ignorance of which sometimes leads to such deplorable results in church architecture:

"Art. 1. Therefore, be it Resolved, the House of Bishops concurring, That a Joint Commission, consisting of three bishops, three presbyters, and three laymen with power to add not more than three experts to their number, be appointed, whose duty it shall be to disseminate information on this subject throughout the Church, with a view to raising the standard of knowledge and taste, as to what is pure and beautiful, in style and design, and correct in plan and preparation.

"Art. 2. In pursuance of this end it shall be the duty of this Commission to effect in each diocese and missionary district, with the consent of the bishop thereof, the organization of a diocesan commission on church architecture.

"Art. 3. The central commission shall be authorized to prepare a hand-book under the direction of one or more experts which shall contain a brief statement of the essential principles of some of the leading styles of church architecture, with illustrations of the best examples of those types which proved to be the most suitable to the various conditions found in city, town, village and country parishes. This hand-book shall be furnished at as low a price as possible to the diocesan commissions, which in turn shall furnish it to the clergy and interested laymen of the parishes and missions throughout the Church.

"Art. 4. It shall be the further duty of this commission to take the matter up with the officials of the theological schools of this Church, with a view to the inauguration of a short course on church architecture to be given annually in each school by some competent expert."


The Commission first met in February, 1920. In August, 1921, it had adopted the following program:

1. There shall be a Commission of the Diocese (or Missionary District), to be known as the Commission on Church Architecture and the Allied Arts, which shall consist of the Bishop (and the Bishop Coadjutor, or Suffragan Bishop), together with three clergymen and four laymen, of whom three at least shall be skilled in Church Architecture, and ecclesiastical art, to be appointed annually by the Bishop. The experts may or may not be chosen from within the Diocese.

2. To this Commission shall be submitted, for counsel and advice by the proper authorities of the Diocese and of all parishes and missions thereof, first, all preliminary sketches and, later, all completed plans for the erection of new Churches, chapels, parish houses, rectories, institutional buildings, and for any proposed changes of importance in existing buildings; with respect to sites, architecture, decoration, color schemes, furnishings, sculpture, stained glass windows, and memorials of all kinds whatsoever.

3. While it is mandatory on the Diocese and the parishes and missions of the same, to submit, through their official representatives, such sketches and plans to the Commission for counsel and advice, before any contract shall be let; in the case of missions and parishes receiving aid from the Diocese, only after the sketches, plans and specifications shall have received the approval of the Commission, shall the authorities of such missions and parishes be at liberty to proceed to their execution.

4. It shall be the duty of the Commission to consider all questions submitted to it with the least possible delay, and, except for extraordinary reasons, to give an answer in writing, at least within one calendar month after the receipt of sketches or plans.
ARCHITECTURE AND THE PUBLIC PRESS

5. It shall also be the duty of this Commission, to bring about, in each parish and organized Mission of this Diocese or Missionary District, the appointment of a Committee on Church Architecture and the Allied Arts, consisting of not more than three persons, to be appointed annually by the Rector, or Minister-in-Charge, whose work it shall be to direct the study of these subjects within the parish, and to offer criticism and advice on all matters within the parish, pertaining to Ecclesiastical Architecture and Art.

6. This Commission shall be under obligation to furnish parish committees with a bibliography of the best works on these subjects, and, generally to stimulate an interest in them, through the Diocese, by the distribution of literature, by lectures, and where possible, by exhibitions and conferences.

In announcing that Dr. Milo H. Gates of the Chapel of the Intercession, New York City, and Dr. Cram and Mr. Goodhue had been appointed as a special committee to prepare the Handbook mentioned in the resolutions above, the Joint Commission said:

"It is hardly needful to dwell upon the absolute necessity of good art of every kind when it is called into the service of the Church, but 'good' art is not enough; it must be the best, and the work art includes not only architecture, painting and sculpture, but as well, equally, stained glass, music, wood-carving, metal-work of all kinds, vestments, needlework.

"The Church brought Christian art into existence, fostered it, developed it to its highest perfection, and not only inspired all the art of Europe from the Edict of Constantine until the Reformation, but, both directly and indirectly, determined the form and method of European art for 1,200 years. What the Church made is the glory of European civilization, and it not only expressed Christianity in absolute perfection, but was as well a potent influence in the spread of Christianity, and its dominion over men for centuries.

"The degeneration began in the 16th Century, and it progressed steadily until it reached its lowest estate in the years between 1800 and 1875, three-quarters of a century of humiliation and dishonor, broken only by the beginning of the 'Gothic revival' in England and its repercussions in the United States.

"Since then the recovery has been almost miraculous. The Anglican Communion took the leadership, and still holds it in the United States through the Episcopal Church, though in England the recent remarkable advance in Roman Catholic architecture threatens the old-time Anglican supremacy. Here in Protestant denominations, particularly the Presbyterians, Congregationalists and Unitarians, are now generally content with nothing but the best procurable in architecture, while the last ten years have seen a notable, steady and consistent advance. Good art is organic; the best art is both revealing and creative. Bad art is a betrayal.

"Basic Principles"

"Religious art must be the best obtainable.

"Church architecture must be expressive of the historic continuity, the doctrinal succession, and the racial antecedents of 'Ecclesia Anglicana.'

"Imitations, substitutes and dishonesty of every kind; together with second-rate work or poor craftsmanship, are intolerable.

"Aesthetic infallibility does not inhere in a bishop, a parish priest, the wardens and vestrymen, a clerical or lay benefactor, or in any architect or other artist because of his vocation.

"An architect, just because he is a member of the A. I. A. need not necessarily know anything about church building or religious art.

"A firm that advertises widely and employs many and plausible 'drummers' may very likely produce 'art goods' that are a scandal.

"Paying for a new church, an altar, a window or a rood-screen, does not give the donor the right to impose his own taste on posterity, or justify the rector, wardens and vestrymen in accepting something that is bad.

"Nepotism in Church art is as bad as nepotism in Church preferment.

"A competition is the worst possible way of selecting an architect, a memorial window, a statue or any other thing that is linked with the church.

"There are many architects in America who have proved they can build a church right. There are several makers of stained glass as able as those in England. There are absolutely competent wood-carvers, cabinet-makers, metal workers, needle-women and embroiderers. Go to them direct. Never 'send for a catalogue.' If you do not know who to go to for anything, find out. Until each diocese has its own Committee competent to give information, advice and criticism, this Commission will undertake the task, sending lists of those who already have proved their capacity.

"It would be of great service to this Commission if clergy and building Committees would send in photographs or other records of churches or decorative elements recently completed or proposed. If criticism is asked it will be freely and honestly given.

"The Commission would also welcome suggestions as to constructive lines it could well follow, and statements of the difficulties that are experienced in getting good art into the service of the church.

"Your Commission wishes to urge upon our Theological Schools the advisability of having a course of lectures upon Church Architecture and the Allied Arts. In this connection, the Secretary wishes to make an observation: during the past two years, he has been able to collect about twenty-five hundred pictures of Episcopal Churches in all parts of the country. Anyone going over this collection will be impressed with the need of improvement in our Church architecture and Church furnishings.

"This is something more than a matter of art. Here we face serious financial loss. It is evident that millions of money have been unwisely spent.

"The movement for improvement in Church architecture, we have observed, is not confined to our own Church. Quite recently, the Methodist, Presbyterians and Baptists have taken up this matter and if we may judge from the reports of their action, have organized more authoritative commissions than we have.

"In order to clear what has seemed to be a misunderstanding on the part of some, our Commission desires to state that it has not thought it to be the desire of the Convention that it should attempt to act as an architect or should attempt, in any way, to take the place of architects. Mani-

"festly, it is impossible for so small a Commission, the individual members being residents in widely separated parts of the country, to act as architects. Numerous requests for assistance have come in, evidently upon this supposition. To meet these requests, the Commission would need to meet at least twenty-five times a year. If that were done, some
of the members would have to spend most of their time travelling to and from meetings.

"Besides this, the Commission believes that one of the best things it can do will be to encourage good architects to give more attention to church architecture. In this way, we hope not only to develop but to bring forward such architects. Already, there are many in the Church and we are glad to report that the number of them is increasing. No Commission and no Committee ever can take the place of a good architect.

"Your Commission wishes, also, to call attention to the fact that improvement in Church Architecture and the Allied Arts of the Church, if it shall come, must come slowly. We cannot expect to revolutionize things, but we look forward with hope to a very considerable improvement in this field.

"If our candidates for the ministry can receive proper and much needed instruction, if each of the Dioceses will organize its own Commission, or Committee, and if this important subject can be taken up in the different parishes, we may confidently expect sure progress in the future."

The above statement was released to the principal newspapers of New York City late in August, and elicited the following comment:

Our Inartistic Churches

Churches and temples ought to be beautiful, and during several periods of history have been so. That they are not always so now is the gist of a joint commission on architecture which has drawn up a report to be presented at the general convention of the Episcopal Church at Portland, Ore., next month. The committee includes Ralph Adams Cram and Bertram Grosvenor Goodhue, both architects of distinction, who are especially interested in ecclesiastical structures. Their report lays down the sound doctrine that no one has a right to impose bad art on a church, in the form of a window, rood-screen, or altar, simply because he is willing to pay for it. Dr. Milo Gates, the secretary of the commission, has collected 2,500 photographs of Episcopal Church edifices which he says impress him with "the need of improvement in our church architecture and furnishings."

Other denominations are at least as badly off as is that to which Dr. Gates belongs. If one were to go more deeply into the subject it might appear that trouble is not a falling off in the artistic impulse, but a dying down of the religious impulse. The ages of great religious architecture have been ages of faith. Ours is not an age of faith, and our architecture reflects it. The whole did not harmonize.

The purpose of a church is neither to advertise its architecture nor to glorify its donor. The great cathedrals of the middle ages were growths. In some cases their construction extended over several generations. Their architecture represented the aspirations of the people.

The modern church, like the modern office building, the modern hotel and the modern apartment house, should not be an imitation, but a creation.—Evening Mail.

Abuses in Architecture

The Commission on Church Architecture attacks in its report to the general convention of the Episcopal Church abuses in modern church architecture. It seems to have become the custom for the church authorities to accept gifts from rich men without inquiring in judgment on the taste and appropriateness of the gifts.

As the report says, "Paying for an altar, a window or a rood screen does not give the donor the right to impose his own taste on posterity or justify the rector, wardens and vestry in accepting something which is bad. Nepotism in art is as bad as nepotism in church preferment. In going over the 2,500 pictures of Episcopal Church edifices in all parts of the country, it is evident that millions of money have been unwisely spent."

A church should be beautiful and fitting, fitting both for the purpose to which it is put and for the setting in which it is placed. Some church architects are prone to imitate medieval cathedrals, to make a more or less accurate copy of their exteriors and to seek to adapt their interiors to the purpose of a modern congregation. The result is sometimes painful and often incongruous. Attempts to incorporate in one structure different architectural types often cause incongruities like that of the young girl at whom a request to a fairy gave her hair like one beautiful sister, a complexion like another and features like a third. The whole did not harmonize.

The purpose of a church is neither to advertise its architecture nor to glorify its donor. The great cathedrals of the middle ages were growths. In some cases their construction extended over several generations. Their architecture represented the aspirations of the people.

The modern church, like the modern office building, the modern hotel and the modern apartment house, should not be an imitation, but a creation.—Evening Mail.

The Churches of Tomorrow

We wonder just what the late Henry Adams would have said to the plan of Dr. Ralph Adams Cram and others to regulate and improve art in the Episcopal churches of America. Nothing very encouraging, we fear. That dry old New Englander spent the last years of his life worshipping on his knees before Our Lady of Chartres, and his heart was sold—in the language of the great American faith, business—to the medieval idea. That idea is a long way separated from the present plan to improve ecclesiastical art by sifting out horrors and regulating beauty upward by control from above.

That much debated thirteenth century, long scorned as a period of crass ignorance, now much rehabilitated and by some regarded as the "greatest of centuries," had anything but an art controlled from above. The taste and enthusiasm that built Chartres Cathedral and all the other great churches of the period welled up from below; they were in the eye and hand of stonemaster and builder up to as much as in the brain of the great designers. Rivalry between cities was one great stimulus; Chartres vied with Bourges and Rheims with Amiens—their people working with might and main—exactly as if all the citizens of New York should fall to upon their greatest church in an effort to outbuild Boston. Religion was the center of life. It sent knights and children alike careering off on crusades. It sent towering aloft the most wonderful buildings since the Parthenon, pulsing with life and fresh beauty.

Well, things are not that way nowadays. We have our wonders. Especially we have the towers of down-town New York, and anybody who thinks they are not wonderful would have been a killjoy in 1222 and scoffed at Chartres Cathedral, when building, as a strange, monstrously tall dream. But the great thrust of American architecture, best in the world today, does not reach its great successes.
ARCHITECTURE AND THE PUBLIC PRESS

in church building. So one wonders about the new plan
to save our churches from horrors. Is taste to be bettered
in this negative fashion? Can anything more be achieved
than a rather prim, conventional adherence to old styles?
Perhaps it is the best that can be hoped for in a period
of waiting between tides. It will certainly save sensitive
retinas many awful wounds. But what of great churches?
Is their day past or will some revival of exuberant faith
send them soaring skyward again, as utterly original as
the great Gothic cathedrals, to reach with their steel ribs
a height and majesty that no cathedral builders before ever
dared attempt?—Tribune.

Reform in Church Building

Plain truths about modern church architecture are plainly
spoken in a report which is to be presented at Portland,
Ore., before the General Convention of the Episcopal
Church. "Paying for an altar, a window or a rood screen,
it says, "does not give the donor the right to impose his
own taste upon posterity." Nor are the authorities as
at present constituted a sufficient tribunal. "Esthetic infalli-
bility," the report proceeds imperturbably, "does not inher-
ent on a Bishop." Among the members of the committee
that signed these irreverent words one finds the vicar of the
Chapel of the Intercession, also Mr. Charles Steele and
the architects Bertram Goodhue and Ralph Adams Cram.
Episcopal churches are presumably no worse than others,
but a study of 2,500 of them has convinced the committee
that "in all parts of the country millions of money have
been unwisely spent."

Clearly the time has come to apply the new principles
of self-government to the building of churches. What is
needed is not so much a personal dictator—a pictorial Judge
Landis, an architectural Will Hays or a sculpturesque
Augustus Thomas—as a commission of churchmen and archi-
tects that shall improve the taste of the donor, curb the
artistic hospitality of wardens and vestry, even direct the
feet of the Bishop in the way they should go. Hitherto,
by and large, of church architecture. But, backed by the
authority of this report, they may now express a hope that
in the future a pair of too-aspiring spires shall not give
the populace occasion to dun behind them the Church of the Holy Toothpicks; that a sculptured Ga-
briel, overflamboyant with his trump, shall not suggest to
the ungody a Church of the Holy Bean Blower.

Ecclesiastical building presents real difficulties. Many of
our most modern churches, if they faithfully expressed their
character in stone, would lean on several sides toward
the amusement centre, the lecture hall, the settlement house.
A sly attempt was made in this direction by Messrs. Goodhue
and Cram when they adorned the portal of St. Thomas's,
frequented by fashionable weddings, with monocled Fifth
Avenue fops and love-knots entwining dollar signs. As
members of a commission for enlightening the Bishop, how
far would they carry this conception? For the present their mood is sobriety itself. They pro-
pose that the curriculum of theological schools shall include
a course in church architecture and that a handbook shall
be prepared for the use of such commissions as may be
established. Of late years church building has distinctly
improved and competent supervision should accelerate the
progress.—Times.

For Better Church Architecture

In the matter of church architecture the rector and vestry
of every Episcopal church are a law unto themselves. The
Christian church. The Moslems do not "restore"; they employ one of the first of aesthetic principles—they throw out the upholstery. They would have been, it is feared, in-sensible to the sufferings of Archbishop Tikhon and two of his priests recently exiled by the Soviets, because the holy fathers kept back some of the church-plate and knick-knacks destined to be sold for starving babies. I suppose half the charm of a Christian, particularly a Gothic, church exists, so to speak, in its excrescences, piliasters, capitals, rood-screens, choir-stalls, paintings, sculpture, and the like. Take away all this from any but the best, and you have a vast shell, austere and noble, if you like, but not a little chilling in effect. Only Amiens or Beauvais and a very few others could endure such nudity unharmed. The primary motive of the Arab builders, on the other hand, was essential form, partly achieved by unimpeded space and light. More than often, the actual sanctuary is open to the air, with a green palm-tree aspiring in the center, a few splendid rugs, an exquisitely devised pulpit, a fountain—and really that is all. I remember such a mosque in Cairo, and I shall never forget the clean, golden nakedness, the sweet austerity of that Eastern house of prayer at nightfall. They talk about the "aspiration" of a French cathedral, achieved in consider-able part by some elementary conjuring with arches and colored glass. In that mosque at Cairo, that portal of eternity, everything aspired in an ecstasy achieved—the trees, the bubbling water, the quivering colors, the amber light. Two figures in snowy turbans were outlined against the dark blaze of the far wall in a dream of prayer; a youth of white rose from the pulpit and, folding up the tasseled book from which he read, descended gravely the stair, glancing at us with his black eyes as he passed. To talk about the atmosphere of such a place as if it were inferior in what is called religion to, say, Saint John's Cathedral with its 150,000 represented congregations, and Bishop Manning in the pulpit, is the merest nonsense.

Into the field of argument and discussion opened by the statement of the Joint Commission on Church Architecture and the Allied Arts, the newspaper com-ment thereon, and Mr. Wright's article, we do not now propose to enter. Our object is to discover, by research, the attitude of the public press toward architecture, to inform ourselves of the cause and nature of that attitude, whatever it may be, and to express no opinions as yet as to the degree of intelligence with which the presstime deals with architecture as a subject. It is for the reader to form his own conclusions. Then, if there be anything resembling a unanimity of opinion, the American Institute of Architects might very well offer such co-operation as would be generally welcomed by the press at large.

(To be continued)

Community Planning and Housing

CLARENCE S. STEIN, Associate Editor

Legal Obstacles to City Planning

The road of the city planner is beset with many difficulties. The young architect whose ambition it is to follow this broader field of planning prepared himself by many years of study of design and engineering— he tries to understand the economic, social and political problems of the day so that he may plan cities that will serve the customs, habits and needs of the time and of the future. Then he thinks he is ready to practice. But no—he must study the law—the law, that greatest of obstacles that society has set up—so it sometimes appears—that it may be more difficult to serve or to save it. City planning is a social function. The law in its long fight to preserve the property rights of the individual has set those rights above the needs of the community as a whole. Take the question of the use of land for public purposes—for streets or parks. We lay out a lovely plan years in advance of a city's growth showing where streets and parks should be to best serve the city's need; but these are on property now held by private individuals and the municipality is not yet ready to take them over. The owners of the property may set their rights above the need of the community and build on the bed of the future streets.

Mr. Frank B. Williams of the New York Bar in his pamphlet "The Law of the City Plan" suggests this...
Mr. Williams suggests a method of hurdling this legal obstacle (or perhaps of climbing underneath the bars). “The municipalities shall be authorized by state law to adopt plans binding upon them until amended in due form.

If a land owner desires to locate an improvement in the bed of a mapped street or within mapped building lines (or perhaps on land destined by the plan, for a small park or playground, or the site of a public building) he shall apply, in the building permit, for permission to locate an improvement contrary to the provisions of the city plan; and when, ultimately, the land is condemned he shall recover no damages for the improvement if it is so located without permission.” Such permission shall be given by the building department only when its refusal will unavoidably do the land owner substantial economic injury and the land owner may appeal from the decision of the building department to a board of appeals.

These legal difficulties that stand in the way of communities that wish to plan for the welfare of the many to grow and the holding of that land by the municipality for all times. The large cities of Holland are purchasing extensive tracts of lands. They have the power to compel the owner to give up his property even before its selling price has been fixed. The Hague has acquired 2,550 acres, Amsterdam 1,200 acres and Rotterdam 800 acres. The policy of the two former cities is to hold the land for all times and to lease for terms of fifty or seventy-five years. Mr. H. Hudig, Secretary of The Dutch Housing Institute, has said, “In large or rapidly growing towns where there is a pressing want of building sites, the only way by which an effective carrying into effect of the plan can be secured is by the ownership of all the land included (in a plan) by the local authorities.”

600 Millions More for Transit in New York

“A month in this hell hole of a subway each year—that’s me”—said the man who hung on to the strap at my right. The guard at Forty-second had shoved us by brute force into a car so crowded that we could not lift the newspapers we carried. We were wedged immovably tight. Our common misery served as an introduction. “Almost an hour’s ‘Pebble Beach Way’ he said; three hundred times a year—twenty-five days of twenty-four hours—almost a month—I think of it every day as I stand here trying to get breath—I think of it every evening when I get home too dead to do anything but eat and sleep. The curse of the great city is the subway. Eight hours work a day—that’s the use of it? You’re in no condition to use your time off after a trip in the subways; all the shows and lectures are no use to me. T’aint the work that kills folks in New York—it’s the trip in this hell hole . . . . . . . . . . . . . . . .

I was thinking of the head lines in the morning papers “Hylan Announces His $600,000,000 Plan for Transit. Proposes to Construct 35 More Subways, Extensions, Tunnels and Bridges—126 Miles of New Lines—System to Total 237 Miles With Transfers and a Single Five Cent Fare—To Be Finished in Fifteen Years.” If my companion could only hold out until it was all built, perhaps he would have a seat. But no! I remember the days before the first subway was opened and how we hoped to escape the congestion of the elevated railroad. The first underground was hardly opened before it was crowded. Then came extensions and new lines. The number of people to be carried back and forth from the center of activity in lower Manhattan always grew quicker than the service of the transit lines, and I saw that the tale was bound to repeat itself again and again. The net result would simply be that the average length of trip would be increased. That means not only more waste of time for each of us but a greater cost for each passenger. If the fare is to be only five cents, the additional cost will have to be paid indirectly by the tax payers. It is a hopeless muddle. The fact that the Mayor’s plan will probably not be carried out because of political differences with the Public Service Commission does not help the situation. The Commissioners’ cure for congestion differs not from that of the Mayor. It is more subways, more and more subways.

Will we never learn that as long as we pile most of the goods on this wee little island of Manhattan, there to be sorted, remade and distributed for the port district
and much of the entire land as well as foreign lands, we will have this everlasting transit problem? As industry and business grow on Manhattan the number of workers grows, and their homes must be further and further away. There is only one possible cure. Industry and business must be spread—decentralized. And the homes of workers must be within walking distance of their work. Six hundred millions for new homes in garden cities near industrial plants—if you will—but not for subways.

The Institute's Activities

Following the discussion at the meeting of the Executive Committee on 9 September, the following cablegram was sent to Major George Oakley Totten, representative of the Institute at the Tenth International Congress of Architects in Brussels:

"American Institute of Architects expresses hope that the International Congress of Architects will find it possible to arrange to meet in the United States in Philadelphia in nineteen twenty-six in connection with the exposition celebrating the one hundred and fiftieth anniversary of the Declaration of Independence.

"WILLIAM B. FAVILLE,
President."

At the last Convention the question was informally asked as to why architects were not granted the same income tax exemption on automobiles used in practice as is granted to physicians.

The Internal Revenue Department has advised the Institute that a professional man may claim as deductions expenses paid in the operation and repair of an automobile used in making professional calls. Further information is contained in Section 214 (a) (1) and Section 214 (a) (8) of the Revenue Act of 1921, and Articles 101, 104, 161, and 162 of Regulations 62, copies of which may be procured upon application to the Internal Revenue Office, 1422 Pennsylvania Avenue, Washington, D. C.

Amendments to the Schedule of Charges: No important amendments were made to the Schedule of Charges. Those directed by the Convention were of a minor nature, in the interest of clarity, and will be found on page 63 of the Proceedings. The amended Schedule has been printed as A. I. A. Document No. 177, and it will also appear in the Ethical Documents.

Public Information: Prior to the Convention, a brochure on publicity work with the newspapers was sent by the Public Information Committee to the President and Secretary of each Chapter. This document contains ample material for a good beginning in the territory of any Chapter, and it is hoped that every Chapter will take steps to use it. The plan was first tried in the Washington, D. C., Chapter, and results were most gratifying. Your officers consider the development of a Public Information Program one of the most important matters before them, and further reports will go to the membership from time to time.

New Members: The Convention approved a program for increasing the membership of the Institute to 4,000 by the end of 1926. It is almost obvious that among the unaffiliated architects there are 1,500 worthy of Institute membership, or at least worthy of a trial. To get these 1,500 within the fold in the next four years is the duty and ambition of the Secretary's Office. The task can only be accomplished through the Chapters and the individual members of the Institute. Their help is sought. When you realize that some non-Institute architect in your community has the makings of Institute membership why not mention his name to the Chapter Committee on Institute membership; or give him some encouragement to the end that he will seek affiliation with his professional society? There are some good men waiting for such an invitation. They hesitate to seek uninvited the honor of Institute affiliation.

Executive and Board Meetings: The summer meeting of the Executive Committee was held in New York. The minutes are included in this issue of the Journal.

The Board of Directors will meet in Denver, Colorado, when the Budget for 1923 will be prepared and tentative plans made for the Fifty-sixth Convention. Progress reports from the Standing and Special Committees will also be considered. The Board will welcome any suggestions from Institute members intended to make the Society more useful to the Public or more effective in the advancement of the Architectural Profession.

On any of these matters the Secretary shall be glad to furnish any other information available, and to render generally to the membership the service and co-operation which it has the right to expect of the Secretary's Office.

Distribution of Documents: Members have received the Proceedings of the Chicago Convention and the Annuary for 1922-1923. The Monograph of Ethical Documents containing the Schedule of Charges, the Circular of Advice, Constitution and By-laws, and the Disciplinary Rules, some of which were amended by the Convention, will be delayed for some weeks.

In the proceedings certain matters are of particular interest: (1) Changes in the Circular of Advice: There was extended discussion of the Board's proposal to eliminate Canon XI of the Canon of Ethics which reads: "To compete knowingly with a fellow architect for employment on the basis of professional charges is unprofessional"; and to add to the Circular of Advice, paragraph 4, a second paragraph condemning competition with a fellow architect for employment on a basis of professional charges, and stating the duty of the architect to take reasonable steps to ascertain that other architects are not under consideration. The Convention approved the Board's recommendation and directed that the phraseology of the amendment be left with the Board for determination and issuance.

WILLIAM STANLEY PARKER,
Secretary.
INSTITUTE AND CHAPTER ACTIVITIES

Chapter Activities

ANNOUNCEMENT is made of the formation of the North Pacific Division of the Small House Service Bureau of the United States. It is thought that the State Bonus Act of Oregon will furnish an excellent opportunity for sales of Small House Bureau plans in the North Pacific territory.

THE PENNSYLVANIA State Association is now composed of five Chapters as follows: Philadelphia, Pittsburgh, Southern Pennsylvania, Erie, and Scranton-Wilkes-Barre; of which Association the President and Secretary are as follows: Mr. W. L. Plack, President, 1200 Locust Street, Philadelphia; Mr. Percy Ash, Secretary, 1827 Arch Street, Philadelphia.

From Our Book Shelf

Fifteenth Century Flemish Art

To anyone who has ever had the good fortune to be able to loaf through Belgium and Holland, particularly to anyone who has walked through the archway of the Town Hall in Bruges, followed along by the “Dyver” canal, crossed the bridge with the ducks swimming below, and pulled the bell at the door of the Hospital of St. John to gain admission to that Chapter House filled with its wealth of Memling’s art,—to all such people Sir Martin Conway’s book¹ will be fascinating reading.

It tells about the origin, the training and the work of the early French miniaturists, and notably those who worked on the “Heures de Chantilly” for the Duc du Berry in 1485; the innovations in methods introduced by Hubert Van Eyck; the Guild System; Peter Christus; Robert Campin; John Van Eyck; Roger Van der Weyden; Hugo Van der Goes; Hans Memling; Quentin Matsys and onward through a fascinating list to Lucas Van Leyden and Peter Bruegel. All these are told about in a most interesting and entertaining way in a large and complete and most satisfying even if somewhat rambling period. Sir Martin Conway explains why of necessity he had to lose his points. He does make his story clear, sufficiently to anyone who has walked through the archway of the Town Hall in Bruges, followed along by the “Dyver” canal, crossed the bridge with the ducks swimming below, and pulled the bell at the door of the Hospital of St. John to gain admission to that Chapter House filled with its wealth of Memling’s art,—to all such people Sir Martin Conway’s book¹ will be fascinating reading.

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If we dare be critical of so learned a discourse, we must say that the author seems so familiar with his subject that he occasionally becomes patronizing. Of Memling he says towards the close of his chapter devoted to that painter, “his pictures prove him to be an artist whose periods of repentance were just as violent as his periods of sinning, and his religious moods the reflex of the others. Whether Sir Martin Conway be right or wrong in this particular, his book about the Van Eycks and their followers reconstructs for us the world of fifteenth century Flemish Art.

ROBERT D. KOHN.

News Notes

SMITH, HINCHMAN AND GRYLLS announce the removal of their offices from the Washington Arcade Building to the Marquette Building, 243 Congress Street, Detroit, Mich.


Every Architect who wishes to practice in New York State must secure a certificate of registration from the Regents of the State University. Application for renewal of registration should have been made by September 1; otherwise it is subject to a heavy penalty for each month’s delay. Application blanks should be secured immediately from the State Board of Examiners and Registration of Architects, Education Building, Albany, N. Y.

THE SOCIETY of Beaux-Arts Architects announces the result of the 15th Paris Prize Competition, the subject being a City Hall. The awards were as follows: Prize and First Medal—Roger Bailey, Patrons, Prof. E. V. Meeks and Mr. O. Faelton, Bronxville, N. Y.; Placed Second and First Medal—E. W. Burkhardt, Columbia University, N. Y. C., Patrons, Messrs. M. Prevot and H. W. Corbett; Placed Third and Second Medal—L. Fentnor, Patron, Mr. F. C. Hiron, N. Y. C.; Placed Fourth and Second Medal—J. G. Schuhmann, Jr., Columbia University, N. Y. C., Patrons, Messrs. M. Prevot, H. W. Corbett and J. V. Van Pelt; Placed Fifth and Second Medal—E. L. Babitsky, John Huntington Polytechnic Institute, Cleveland, Ohio, Patron, Mr. J. Wynkoop, N. Y. C. The members of the jury of awards

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

were F. L. Ackerman, L. Ayres, R. P. Bellows, P. P. Cret, J. M. Howells, J. H. Hunt, J. G. Rogers, H. R. Sedgwick and H. O. Miliken, chairman.

Tales of the passing of ancestral estates in England seem to increase in their appeal to our affection for the things that were. Now it is Cassiobury, to be sold by the Countess of Essex, in whose family the property has been for six generations. It is said that Grinling Gibbons is there to be seen at his best, and of course the press records the fact that he was appointed carver to Charles I. at the salary of 1s. 6d. a day. Tantallon Castle, a part of a north Berwick estate, is also down for sale. The earliest part of this historic structure dates from 1450, and the medieval banquetting hall is referred to as a gem of architecture. There seems to be no doubt about the coming change in the character of English domestic architecture, since the ability to maintain an establishment of the old order is now greatly circumscribed in many ways.

New Members Elected
(As of 5 August, 1922.)


Obituary

George Beaumont, F.A.I.A.

Elected to Fellowship in the Institute in 1889
Died at Chicago, 11 July, 1922

In the death of George Beaumont, the Illinois Society of Architects loses a valued member. Mr. Beaumont was born in Leeds, England, in 1834, and commenced the study of Architecture when only fifteen years of age. After traveling in Europe extensively in the pursuit of his architectural studies he was awarded the annual medal in 1880 of the Leeds and Yorkshire Architectural Society. In 1881 he was elected to membership in the Royal Institute of British Architecture. He came to Chicago, in that same year and found employment with architect J. A. McLennan and shortly afterwards with Wheelock & Clay, remaining with this firm as its superintendent of construction until its dissolution in 1886, at which time he went into general practice for himself. Mr. Beaumont twice served as President of the Chicago Architectural Sketch Club, which he organized in 1885. He was an early member of the American Institute of Architects and was always an active member of the Illinois Chapter, serving for seven years as secretary, one year as treasurer and as president for two terms. Mr. Beaumont joined the Illinois Society of Architects during its first year of existence and at once became a most valued member, serving as president through two terms. At the time of his death he was serving on the Board of Directors.

Mr. Beaumont in his practice of architecture always sought to give full value in his services and thus won the confidence and loyalty of many prominent clients. On account of his knowledge and reliability his services were also sought after by the City Administration to conduct its civil service examinations; he gave freely of his time in this special work for a period of seven years. Mr. Beaumont was one of those rare, true and tried men who could be relied upon always to act promptly, doing his best, and carrying out his part of the work successfully. He leaves a place that will not be easily filled and his memory will be cherished by many. Mr. Beaumont, as Historian, ended his report at our 25th Anniversary in the following words, "In looking back over the last quarter of a century we, in loving memory, deeply regret that so many of our older talented members, who fought the fight and kept the faith, have passed into the great Homeland and, resting from their labors, peacefully await the glorious day of Resurrection."

These words mean much more to us now than when spoken by our departed friend. H. B. WHEELock.

Structural Service Department appears on the second right-hand page following
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Abstracts

It is the purpose of the Structural Service Committee and the Journal, jointly to give in this division each month, brief abstracts of all publications by the Government Departments and Bureaus, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and thus afford architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.

Comparative Tests of Automatic Ventilators. (12k)—(By J. P. Calderwood, A. J. Mack and C. J. Bradley. From the July, 1922 number of the Journal of the American Society of Heating and Ventilating Engineers.) Because of the lack of authentic data upon the effectiveness of different types of automatic ventilators, when subjected to varying conditions, the tests, described in this paper, were conducted in the Engineering Experiment Station of the Kansas State Agricultural College, to determine the efficiency of many of the various styles.

A preliminary series of tests upon three different types of automatic ventilators was carried on at the Kansas State Agricultural College during 1919 and 1920. The results of this investigation proved so interesting that a decision was made to continue the work upon a much broader scale and to include as many of the commercial ventilators as possible. Consequently the laboratory equipment was enlarged and twenty-two representative ventilators were secured through the courtesy of the various manufacturers.

Types of Ventilators.—In general, an automatic ventilator is simply a protecting device, which is placed over a hole in the roof of the building or inclosure to be ventilated, to prevent the entrance of rain or snow. Their use for the removal of foul gases from inclosures is quite common so that further description is unnecessary. Their chief advantage over the mechanical means of ventilation consists in their providing ventilation without the use of mechanical power.

Such a ventilator, in order to be effective in the production of ventilation, should not only be effective in preventing the entrance of snow or rain, but should also provide for the free exit of foul gases when no wind is blowing and should not be affected by down drafts when winds prevail. This fact gives rise to various types, the main feature in their several designs being to utilize the wind to better advantage in the production of draught. Commercial ventilators may, consequently, be divided into four general classes dependent upon the means utilized in producing the additional draft. They are the plain stationary, the siphoning stationary, the plain rotary, and the rotary siphoning types.

The plain stationary type of automatic ventilator makes no special provision for utilizing the wind velocity in producing additional draft. This type consists simply of a cowl over the ventilator pipe which prevents the direct entrance of rain or snow and is made storm proof by a circular cow or hood.

The principle of operation of the stationary siphoning type is based upon the breaking up of the wind currents and directing them in such a manner as to create a decreased pressure in the upper portion of the ventilator. Ventilation is thus secured by an ejector action. When no wind is blowing, the ventilation resulting is that due to natural circulation of the air. When winds prevail the siphoning action is established and additional ventilation results. The higher the velocity of the wind, the greater the exhausting power of the ventilator.

The plain rotary type consists of simply an elbow or its equivalent which is supported upon a vertical shaft. The position of the elbow is regulated upon the principle of the weathervane so that the opening from the ventilator always points away from the direction of the wind. This ventilator makes use of the slight vacuum produced by the wind in the production of additional draft.

The turbine ventilator was classed in this investigation as of the rotary siphoning type in that its operation was difficult to classify and that its effectiveness brought it within the rotary siphoning type. It is illustrative of the many different ideas which have been incorporated in ventilator construction.

The rotary siphoning type has, in addition to the principle embodied in the plain rotary type, a feature similar to that used in the stationary siphoning ventilators. The air is directed by flutes or vanes so that an ejector action is established, thereby increasing the velocity through the ventilator. In some cases, the ejector is placed within the ventilator, while in others it surrounds the ventilator.

Method of Test.—In establishing a method of procedure in conducting the tests, it was conceded that there were many factors which would influence the practical performance of a ventilator and which should be included if an exhaustive test were to be conducted, but difficulties would arise if any attempts were made to include these in the laboratory tests.

In dealing in a practical way with the effectiveness of a ventilator, it is necessary to take into account the openness of the structure to be ventilated, as well as the action of the wind. When wind is arrested by an obstruction, such as a building, a pressure is developed which forces air through possible openings with the result that the air inside the building is forced outward through no action of the ventilator other than the opening it provides.

Furthermore, temperature differences exist between the inside and outside of buildings ventilated and this likewise will increase or decrease the effectiveness of a ventilator in practical use, depending upon the degree of temperature difference.

In conducting the tests in this investigation, it was finally decided that the performance of the wind in inducing a current of air through the ventilator was the important factor. Also, it was thought desirable to secure data upon the advantages of the various types of ventilators and to ascertain, if possible, what principles of design should be incorporated to secure the most efficient ventilator. The investigation, consequently, was limited to these phases of the subject.

XIII
The Touch the Architect Wants

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Atlanta, Georgia
Test Equipment.—In order to conduct the tests and to approximate actual wind conditions, a wind tunnel 3 ft. square and 16 ft. long was first constructed. In one end of the tunnel a variable speed fan was placed which was capable of producing wind velocities up to 15 miles per hour. About 3 1/2 ft. from the other end of the tunnel a 10 in. pipe, which protruded about 2 in. above the tunnel floor, was inserted to receive the ventilator.

The wind tunnel with its fan was placed in the mechanical engineering laboratory, the volume of which was large enough to eliminate all perceptible drafts caused by the fan. The temperatures of the air in the tunnel and that in the room were also equal so that all effects from natural ventilation were removed. Honeycombed screens were placed within the tunnel to produce parallel currents of air and to create a more uniform velocity over the tunnel section.

All the ventilators tested were of the same commercial size. The diameter at the base of the ventilator was 10 in. This dimension was selected as being fairly representative of the ventilators used in practice and this size made possible the investigation without necessitating a large tunnel. It was assumed that the manufacturers of ventilators proportioned their ventilators according to their size and that a 10 in. ventilator would be proportional to other sizes.

In performing the tests, a ventilator was placed over the pipe in the tunnel and the speed of the fan regulated to produce the desired wind velocity. The air from the fan was forced through the tunnel toward the ventilator, thus creating a region of high pressure near the ventilator which tended to force air down through the ventilator rather than induce a current up through it. Readings of the wind velocities in the tunnel and of the air induced through the ventilator were taken by means of an anemometer. The readings of the velocity of the air in the tunnel were taken at various sections of the tunnel and the results averaged. The velocity of the air induced through the ventilator was measured by inserting the anemometer in the short vertical pipe underneath the tunnel floor. Data was also secured of the air induced through the ventilator pipe when no ventilator was inserted in the tunnel. The results secured in this latter case are referred to and recorded as No Ventilator.

Conclusion.—Before attempting to draw any conclusion from these results, it may be well to call attention to one or two important facts.

1. The test apparatus while designed to reproduce actual wind conditions approaches this only approximately. As was mentioned before, in an actual installation, the wind has its progress arrested by the building. A portion of this air enters the building through any crevices. This theoretically increases the pressure within the enclosure and materially increases the velocity of the air passing through the ventilator. Thus, it would seem that the results secured in this investigation were only approximations of actual installations or would be applicable only to exceedingly tight or well-built buildings.

To compare the results with actual installations, a 10 in. ventilator pipe was inserted in a small outbuilding. No heat was supplied to the building during the tests and readings of the wind velocity and the induced velocity through the ventilator were read when various types of ventilators were used. The variable velocity of the wind made the readings rather erratic, but when the tests extended over several days, the average results checked fairly closely with those secured in the laboratory. It was thus concluded that the laboratory results were fairly representative. They were at least conservative values of what should be expected in actual installations.

2. The results were secured on rather small ventilators. Commercial ventilators as a rule are much larger than those used in this investigation and their proportion may be different from that of the 10 in. ventilator tested. This may alter the aspect of the problem, although it is assumed to no serious extent.

3. The results as found in the investigation differed somewhat from those secured in tests of similar ventilators conducted in different laboratories. This discrepancy is partly explained by the fact that different laboratory equipment will produce different results. Any turns or extension to the pipe which is used for receiving the ventilator under test produces friction that, determining the plain size of the tunnel likewise plays an important part, a small tunnel producing different results from those of a large one. With a tunnel 3 ft. square as used in this investigation, some of the larger ventilators produced so much obstruction that only a comparatively small area remained for the flow of air between the ventilator and the sides of the tunnel.

One of the first important conclusions that may be readily drawn from these results is that a wide range of effectiveness is found in the ventilators of each type. There were ventilators in each type that gave an extremely high ventilating effect, while others were comparatively poor. The range was more pronounced in the plain stationary type. Some of the plain stationary types did not give as good results as no ventilator. Much of this could be overcome through more judicious design. The free area through the ventilator openings should be ample capacity and be as free from obstructions as possible. The storm band, if used, should be of ample width to prevent the wind from entering the ventilator.

As judged from the results of the different types of ventilators tested, a slight gain is made by utilizing the wind to better advantage. In the order of their effectiveness come the plain stationary, the rotary, the plain rotary and the rotary siphoning. The average effectiveness of the various types is plotted on the accompanying chart:

Results of Tests Showing the Velocity in Feet Per Minute Induced Through Seven Different Plain Stationary Ventilators.

<table>
<thead>
<tr>
<th>Ventilator</th>
<th>Velocity of wind in miles per hour</th>
<th>Velocity induced through ventilator, feet per min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>145</td>
<td>185</td>
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<tr>
<td>2</td>
<td>241</td>
<td>287</td>
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<td>3</td>
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<td>6</td>
<td>583</td>
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</tbody>
</table>

Results of Tests Show the Velocity in Feet Per Minute Induced Through Six Stationary Siphoning Ventilators.

<table>
<thead>
<tr>
<th>Ventilator</th>
<th>Velocity of wind in miles per hour</th>
<th>Velocity induced through ventilator, feet per min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>145</td>
<td>162</td>
</tr>
<tr>
<td>2</td>
<td>241</td>
<td>304</td>
</tr>
<tr>
<td>3</td>
<td>337</td>
<td>446</td>
</tr>
<tr>
<td>4</td>
<td>446</td>
<td>446</td>
</tr>
<tr>
<td>5</td>
<td>458</td>
<td>458</td>
</tr>
<tr>
<td>6</td>
<td>532</td>
<td>532</td>
</tr>
</tbody>
</table>

Results of Tests Showing the Velocity in Feet Per Minute Induced Through Four Plain Rotary Ventilators.

<table>
<thead>
<tr>
<th>Ventilator</th>
<th>Velocity of wind in miles per hour</th>
<th>Velocity induced through ventilator, feet per min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>145</td>
<td>208</td>
</tr>
<tr>
<td>2</td>
<td>241</td>
<td>346</td>
</tr>
<tr>
<td>3</td>
<td>337</td>
<td>484</td>
</tr>
</tbody>
</table>

Attractive—Convenient—Dependable

Whether in palatial hotel, club or modest home, electrical equipment should qualify in all these respects. The G-E Tumbler Switch meets each requirement fully.

Its refinement of design pleases the most critical. It is conveniently operated by a touch of the hand or elbow. One small lever which operates up and down replaces the two buttons of the push type switch. Its dependability is insured by sturdy construction—both electrical and mechanical correctness.

G-E Tumbler Switches are made in either flush or surface types, suitable for homes, apartments, churches, hotels, factories, or other buildings.

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Sales Offices in all large cities
A comparison of the siphoning types of ventilators with those of the non-siphoning types show that some of the non-siphoning types are as effective as some of those employing the siphoning principle. This fact led to a special investigation which had for its object the determination of the effectiveness of the siphons. In this part of the work the siphons on the windward side of the ventilator were closed by wads of paper and invariably the effectiveness was not decreased.

A further study of the effectiveness of the stationary siphoning types was made to determine what factors in the design made those of one manufacturer better than another. This study was decided upon because most of the ventilators in this classification were practically the same in general measurements. It was found that the width of the storm band played an important part; the wider the band, the greater the effectiveness.

The results also seemed to show that the addition of the flutes for producing the siphoning acted as a secondary storm band and that those ventilators in which the angle of the flutes were small proved the most effective. This later conclusion was explained by the fact that with ventilators whose flutes were steep, more difficulty was encountered by the air in entering the ventilator. Consequently, less air entered that had to be exhausted and the exhausting power of the ventilator could be utilized in inducing air through the ventilator rather than removing air that had been introduced for siphoning.

The results of this investigation seem to indicate that the most effective action of the wind in inducing air through a ventilator is the vacuum produced in the wake of the wind. The ventilators which showed marked effectiveness in these tests took advantage of this principle. Those ventilators, which presented a large obstruction to the wind, or other factors being the same, gave best results.

The factors which seemed to be important in the design of a ventilator as are follows: The area for the outgoing gases should be made ample; in the case of siphoning ventilators the free area should be designed to care for the additional air used in siphoning; the storm band, if used, should be made at least wide enough to prevent entrance of outside air. Any provision, whereby the vacuum created by the wind is increased or made more effective will produce better results.

**Effect of Storm Band.**—In order to test the effect of the width of the storm band, an experimental ventilator of the plain stationary type was constructed. The storm band was formed by two sheets of tin and made so that the width of the band above and below the ventilator opening could be varied. The size of the tunnel did not permit of a larger storm band than 22 in. and the minimum width of band was 17½ in. The lower edge of the storm band was placed 4 in. below the ventilator opening as this location gave best results. A comparison of these results indicates that a wider storm band materially increases the effectiveness of the ventilator and that a plain stationary ventilator so equipped is equal in effectiveness to some of the rotary siphoning type. While these results may be in error because a ventilator with so great a band width produced so large an obstruction in the experimental tunnel, they do indicate the advisability of considering the storm band as an important part of the ventilator.

**Results of Tests Upon An Experimental Ventilator to Determine Effective Width of Storm Band.**

<table>
<thead>
<tr>
<th>Wind Velocity in mles per hour</th>
<th>Velocity induced through ventilator, feet per min.</th>
<th>Width of Storm Band in inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>145</td>
<td>19</td>
</tr>
<tr>
<td>8</td>
<td>241</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>337</td>
<td>21</td>
</tr>
<tr>
<td>17½</td>
<td>130</td>
<td>183</td>
</tr>
<tr>
<td>19</td>
<td>402</td>
<td>456</td>
</tr>
<tr>
<td>20</td>
<td>620</td>
<td>606</td>
</tr>
<tr>
<td>21</td>
<td>361</td>
<td>656</td>
</tr>
</tbody>
</table>

**Tar Preparation and Uses.** (12a1)—(U. S. Dept. of the Interior. Bureau of Mines. Technical Paper 268, "Preparation and Uses of Tar and Its Simple Crude Derivatives" by W. W. Odell. Pages 84. Size 6" x 9". Illustrated.) According to Webster's dictionary tar is a thick, brown to black viscous liquid obtained by the destructive distillation of wood, coal, peat, and other organic materials, and having a varied composition according to the temperature and material employed in obtaining it.

**Chief Sources of Tar.**—Although it is possible to produce an endless variety of tars, the varieties commonly found on the market in appreciable quantities are few in number and may be listed under the general heading of tars produced as a by-product in the manufacture of combustible gas or coke as follows: Horizontal-retort tar, inclined and vertical retort tar, by-product coke-oven tar, water-gas tar, producer-gas tar, and oil-gas tar.

In fact, a more general classification can be made, and the chief varieties of tar on the market may be classed as: Coal tar (including retort tar and oven tar), water-gas tar, and mixtures of coal tar and water-gas tar.

**Coal Tar.**—Coal tar is obtained by the destructive distillation of bituminous coal, as in the manufacture of coal gas. New methods of manufacturing coal gas have been intro-
ALMOST everything that can go into building construction bears the trade-mark of some manufacturer who has said to himself:

“If I am to realize my ambition in building a permanent business, I must put into what I make the best of my skill and knowledge, must label it with my trade-marked name, must win for that name an honorable place and must keep it so.”

Trade-marks are guides to good merchandise. You have proved it with building materials—you have proved it in buying the food you eat and the clothing you wear.

The most widely used building material is lumber. You should know the lumber you specify—and you can.

For it, too, is trade-marked. You can specify it by brand with the same assurance you designate other trade-marked goods.

The name Long-Bell on lumber is your guide-mark to lumber and lumber products of uniform quality.

Long-Bell Lumber has back of it 47 years of honorable enterprise.

Long-Bell Lumber comes from exceptional stands of virgin timber; manufactured in modern mills.

Long-Bell Lumber is made by skilled workmen—men who take a personal pride in a product bearing their company’s name.

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Long-Bell Lumber is trade-marked. This means unmistakable identification—the same kind of a buying guide you demand on other merchandise.

The Long-Bell Lumber Company
R.A. Long Building Lumbermen since 1875 KANSAS CITY, MO.

Southern Pine Lumber and Timbers; Creosoted Lumber, Timbers, Posts, Poles, Ties, Piling and Wood Blocks; California White Pine Lumber, Sash and Doors, Standardized Woodwork; Southern Hardwoods, Oak Flooring.
duced in recent years, which in turn have resulted in corresponding changes in the properties of coal tar.

**Properties of Coal Tar:** Retort-gas tar, which is obtained as a condensation product in the manufacture of illuminating gas by the carbonization of bituminous coal in retorts, is a black viscous liquid that contains less of the lighter hydrocarbons and more of the heavy hydrocarbons and free carbon than the tar from some other sources. The specific gravity (water-free retort-gas tar) ranges from 1.10 to 1.25. The so-called "free carbon" varies from 18 to 30 per cent for horizontal retort tar and from 0.4 to 5 per cent for vertical retort tar. Tars having a high specific gravity and high free-carbon content yield a high percentage of high boiling point pitch. Differences between the various tars are in a great measure due to the rate, duration, and completeness of heating of the coal, the amount of exposure of the tarry vapors to hot brick or coke surfaces, the temperature of these walls, and the exposure of the vapor to the final temperatures reached in the coking chamber.

**By-Product Coke-Oven Tar:** This is a particular kind of coal tar. In by-product ovens coal is carbonized in greater mass and the carbonization period is longer. The coal is not heated so rapidly, but it is finally exposed to a higher temperature, resulting in the production of a greater volume of gas and a different quality of coke and tar.

**Properties of By-Product Coke-Oven Tar:** This tar is less viscous, is lighter in weight, contains more oils, less pitch, and less free carbon than tar from horizontal retorts; and in some respects is much like tar from vertical retorts.

**Water-Gas Tar:** This tar has an entirely different origin from coal tar and, in addition, differs from coal tar both physically and chemically. In appearance, however, it is much the same, except that it is much more fluid. It has the consistency of water or oil. When a small quantity is rubbed between the finger and thumb in a thin layer, it appears to be brown to black. Its specific gravity is very nearly the same as that of water, but when free from water may be as high as 1.15. Its composition and physical properties vary, this variation being greater in small plants when gas is produced intermittently than in larger plants where operations are continuous. It frequently is found to contain more than 50 per cent water. Water-gas tar contains compounds known as paraffins which are not present in coal tar. It is further distinguished from the latter by its not containing any appreciable amount of tar acids. Free carbon is seldom present in amounts greater than 1 to 4 per cent.

For many uses to which coal tar and its products are put, water-gas tar and its products are apparently unsuitable, but they should not be condemned for all purposes requiring a tar or tar products. The wide variations in important properties existing between water-gas tars made with the various oils no doubt occasions much of the discrimination against water-gas tar. However, it may be said of water-gas tars in general that they are separated from water with difficulty; their pitch is small, easily fusible, and readily affected by temperature changes; they contain paraffins, and their free carbon content is very low.

**Raw and Refined Tars:** Raw tar is tar as collected at the works; it contains water in various proportions and frequently small amounts of ammoniacal liquor. It is not usually sold to consumers in the raw state. Refined tar has had these ingredients removed by the application of heat. In some plants the tar is heated in vertical tanks by a coil immersed near the bottom; then it is drawn off from the bottom and sold as refined tar. The tar thus treated is not free from water or ammonia but is, perhaps, more suitable for most purposes than the untreated tar. When tar is heated in a closed tank until the water, ammonia, and crude naphtha or "first runnings" are removed, the remaining tar might properly be termed "refined tar." For certain uses it is desirable to continue the heating a little longer, volatilizing and removing more of the lighter oil constituents of the tar; the resulting heavy tar is also refined tar. When it is purchased in quantities and when the particular use to which it is going to be put is known. The tar is usually refined to suit a given specification. Tars that have been refined are heavier and more viscous than raw tar, their viscosity depending on the degree of refining.

**Tar Distillation:** When heat is applied to tar contained in a still, the first change that takes place is the volatilization of the very light oils and the water contained in the tar. These vapors pass out through the off-take and are cooled. On condensing to a liquid, the light oil and water can easily be separated. As more heat is applied heavier vapors distill off and if carried to completion or until all volatile oils have been evaporated, only carbon or coke is left in the still. If the distillation is stopped before all the heavier fractions are vaporized and driven off, the residue is pitch. The more oil left in the residue, the softer the pitch, and vice versa.

The first distillate, very light oil and water, is usually called crude naphtha, but in some works is termed crude benzol. This mixture of oil and water is referred to as "first runnings." When water no longer appears in the distillate, a "change" is made and the oil coming over is run into another container reserved for "light oil." The distillate coming over as the second or light oil fraction has a specific gravity lower than 1.00 at 60° F.

When the oil coming over has a specific gravity equal to 1.00 at 60° F. a second change is made and the distillate is called carbolic oil, as it contains most of the carbolic acid that distills over.

The next or fourth fraction to come over is called "creosote," "dead oil," or "heavy oil," and is usually the last fraction separated. Its properties depend largely upon the completeness of the distillation. When soft pitch is desired as a residue from distillation the volume of creosote and amount of solid matter crystallizing from it at ordinary room temperature will be less than if the distillation is carried to a hard pitch.

The residue in the still, pitch, is drawn off and cooled to proper temperature and run into tight, dry, open-headed barrels, in which it solidifies on further cooling and in which it is usually shipped.

The final point where the distillation should be stopped cannot be foretold in a way that will apply exactly to all tars, the point being determined by the quality of hard or soft pitch that is desired. For a medium grade of pitch, such as is used by roofers, the firing is stopped when the odor, which is noticeably different toward the end of the "run," is more pungent and like ammonia.

When a distillation is made to a soft or a medium pitch and the fractions separated as described, the following yield may be anticipated:

**Coal tar:**

1. First runnings
   - **Per cent by volume**
   - Water: 1 to 5
   - Crude naphtha: 1 to 2
   - Light oil: 1 to 4
   - Carbolic oil (middle oil): 5 to 10
   - Creosote oil (heavy oil): 10 to 22
   - Pitch: 60 to 80
   - Uncondensed gases and other losses: 1 to 2

**Total: 100**
The Master Builders Co.,

Cleveland, Ohio

Gentlemen:

On the Cadillac Garage, 10th and Mary Place, we used Master Mix in the laying of 60,000 square feet of floors. The floors are hard and smooth and the owners are well pleased with them.

We laid these floors in December, and practically all finishing was done during regular working hours. This effecting a saving in labor cost. As our lighting facilities were not the best, the finish would not have been so uniformly good if it had been done partly at night with artificial light.

We estimate that we saved 40% of the cost of the Master Mix in the saving made on overtime labor.

Yours very truly,

FARNAM CONSTRUCTION COMPANY

(Signed) L. C. Farnam

March 28, 1921


THE MASTER BUILDERS COMPANY

Main Office: Cleveland, Ohio

Factories at Cleveland and Irvington, N. J. Sales Offices in Seventy Cities.
When hard pitch is made by mistake, it is frequently “cut back” by adding to it, in the pitch tank, enough of the last fraction removed by distillation to give a soft or medium pitch, as desired. When the distillation has not been carried too far, “cutting back” can be done without seriously affecting the quality of the residual pitch, but the practice is objectionable and should be avoided when possible. If the distillation has been carried too far “cutting back” will not remedy the error and a good quality of pitch cannot be made.

Roofing pitch, such as is used in connection with flat roofs, is medium to soft according to the climate. It is decidedly common practice for roofers to cut back the pitch a little by putting a small quantity of tar in the kettle with it. In fact, some roofers take advantage of the fact that tar is cheaper than pitch by buying as hard a grade of pitch as they think they can use and cutting it back with coal tar to the consistency desired.

**Carbonation of Coal Tar-Distillation to Coke.** As there is a greater demand for the oil than for the pitch, it is desirable to increase the percentage of oil, simultaneously reducing the quality of the pitch. In some plants this is being accomplished by making a very hard pitch which is subsequently powdered and used as fuel; the yield of oil is thus increased from 32 per cent of the tar to 50 per cent of it. By distilling at a red heat to a solid residue the yield of oil is still higher. When tar is distilled to a medium pitch, only about 10 to 20 per cent of the original tar is suitable for timber preserving. When coke is made, however, over 60 per cent of the original tar may be so used.

**Uses.** Among the many and varied uses of tar and its derivatives the following abstract is selected as being of interest in connection with building construction.

**Creosote.** (1931)—(Technical Paper 268. Bureau of Mines.) There is some confusion regarding the meaning of the word creosote. The definition given in Webster's dictionary is: (a) An oily antiseptic liquid, of a burning smoky taste, colorless when pure, but usually colored yellow or brown by impurity or exposure, obtained by the distillation of wood tar, especially that of beechwood. It is a complex mixture of various phenols and their ethers, the principal constituents being guaiacol, cresol, phloral and methyl cresol. (b) A similar substance obtained from coal tar.

The definitions given for creosote oil are: (a) That part of the wood-tar distillate from which creosote is obtained by purification. (b) The third main fraction in the distillation of coal tar, boiling from 230 degrees or 240 degrees to 270 degrees C. It is greenish yellow oil, heavier than water, containing phenols and other bodies.

From the last definition, creosote oil is the fraction distilling just after the carbolic oil and before the anthracene oil. As frequently used, however, the term has a broader application, including all the heavy oils distilling up to the temperature at which soft pitch remains in the still. Sometimes “creosote oil” means carbolic oil; then the true creosote oil is called heavy oil. Of late years tar has been added to creosote oil and carbolic oil, and the mixture is sold as creosote, creosote oil, wood preservers' creosote, and paving-block oil, for treating timbers and wood blocks. It is accordingly not surprising that so-called creosote oil can be purchased having almost any specific gravity from 1.02 to 1.14.

Specifications for creosote oil differ so widely that the term frequently means a tar oil with a specific gravity greater than water and with a high boiling point. The word creosote is often used as synonymous with creosote oil.

True creosote oil, which comes over after the carbolic fraction, usually contains naphthalene that may crystallize on cooling. Usually the naphthalene is not separated from the liquid, as the oil is mainly used in wood preserving, for which purpose a small content of naphthalene is not objectionable.

The two primary objects of treating timbers and wood blocks with creosote oil are to preserve the wood from decay caused by the action of molds and fungi, and to waterproof the wood to prevent warping and swelling.

Numerous experiments with the various tar oils as wood preservatives have demonstrated clearly that the heavy fractions from the distillation of coal tar are superior to the light fractions or to mixtures of the light with the heavy. It has been shown that the light oils boiling below 205 degrees C. (401 degrees F.) do not remain long in treated timber, whereas the heavy oils with a high content of anthracene oil remain almost indefinitely and preserve the wood from decay and from boring animals.

The method of applying creosote, the quantity used per cubic foot, and the grade most suitable depend on the kind and condition of wood to be treated and the use to which it is put. When the wood is merely dipped, as in the open-tank process, the loss of oil by evaporation is proportional to the temperature of the bath, to the percentage of low-boiling oils present, and to the area of the exposed surface of the bath. With this method, an oil that has the minimum content of low-boiling constituents is particularly desirable; it should not contain an appreciable amount of free carbon.

The wood will absorb only a small amount of oil when treated by this process, even under the best conditions; therefore an excessive proportion of high-boiling solids that may on chilling choke the pores of the wood during treatment is undesirable. Very often, however, tar of low free-carbon content is mixed with tar oils for use in this process, cost being the controlling factor.

In the closed-tank or pressure processes, considerably more creosote oil is used per cubic foot of wood treated, the amount ranging from 5 to 20 pounds in different specifications. A common requirement for paving blocks for exposed pavement is that the penetration be equivalent to 16 pounds of water-free oil per cubic foot of wood.

The oil used for this and similar purposes may be classed, first, as a pure distillate of coal tar, and, second, as mixtures of such distillates with pure water-free coal tar.

The following is the American Railway Engineering Association specification for creosote oil:

**Commercial Creosote-oil Specifications**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Grade</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Below 210° C, not over............per cent</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Below 255° C, not over............per cent</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>Residue above 355° C, must be soft and greater than ............per cent</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Water, not over............per cent</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Specific gravity at 38° C, not less than..</td>
<td>1.03</td>
<td>1.03</td>
</tr>
</tbody>
</table>

(a) Distillation results are calculated on the basis of dry oil when distilled by the method adopted by the American Railway Engineers Association in an 8-ounce asbestos-covered retort, with a standard thermometer and bulb one-half inch above the surface of the oil. Per cent here means per cent by weight.

Grade 1 is a pure product obtained from coal-gas tar or coke-oven tar, and shall be free from any tar, or from any oil or residue obtained from petroleum or any other source; it shall be completely liquid at 38 degrees C. (100 degrees F.) and shall be free from suspended matter. Grades 2 and 3 shall be the best obtainable grades of coal-tar creosote.
How much is 11 cents a foot?

CORTO RADIATORS—graceful, compact, coal-saving—are named for the famous French engineer, Courtot, who developed them after years of experiment.

Their cost to the home builder averages 11 cents a foot more than ordinary radiators.

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Why scrimp the ounce?

THE builders of the Capitol theatre were not penny wise—they did not scrimp the ounce of prevention, they did not use Carey Asphalt built-up roof because it was cheapest.

They used it because it was better—because the cost of even the best roofing was a trifle compared to the cost of the building—because the damage that might result from a poor leaky roof would cost many times the price of the best protection.

Write for the Carey Specification Book
The architects have not been hampered for money in working out their designs for this noble structure, in which the very genius of brick, as the fired clay of the all-supporting earth, has been embodied. Unfortunately the half-tone does not reproduce the exquisite color blending of the brickwork.

Variety of Effects in the Face Brick Wall

The many beautiful Face Brick walls—in residences, in commercial, industrial and public buildings—that are built every year indicate the infinite variety of effects obtainable by the architect in the use of this plastic material. The great variety of color tones and textures in the material itself, the arrangement of the units in various bonds, the innumerable patterns obtainable by shifting the headers or stretches in successive courses back and forth, and the color, texture, and kind of mortar joint, all contribute to extend the artistic possibilities of the Face Brick wall.

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- KANSAS CITY: 2014 Wyandotte St.
- INDIANAPOLIS: 500 Occidental Bldg.
- ST. LOUIS: 1311 Chemical Bldg.
- MIDDLETOWN: 708 Builders Exchange
- COLUMBUS, O.: 806 1st Natl. Bank Bldg.
- SALT LAKE CITY: 204 Doody Bldg.
- PITTSBURGH: 940 Oliver Bldg.
- DENVER: 514 Boston Bldg.
- DALLAS: 1772 Lafayette Bldg.
- DETROIT: 1524-25 Candler Bldg.
- TOLEDO: 1524-25 Candler Bldg.
- ATLANTA, GA: 1524-25 Candler Bldg.
- MILWAUKEE: 940 Oliver Bldg.
- MILWAUKEE: 1772 Lafayette Bldg.
- MILWAUKEE: 1524-25 Candler Bldg.
- MILWAUKEE: 72 Fremont St.

**CANADIAN REPRESENTATIVES**—The Dominion Radiator Co., Ltd.


**Industrial Section**

**Journal of the American Institute of Architects**

October, 1922
No other glass will do

PLATE glass is the right glass for hotel, office-building, apartment or house. In strength and appearance it cannot be equaled by any other glass.

Plate glass is made to withstand the sudden changes in air pressure and the strong winds encountered on the upper floors of buildings. It is made to give clear vision from any angle without distortion. Looking through plate glass from the inside is like looking through the clear air itself.

The beauty of plate glass from the outside lies in the true reflection of objects—clear and sharp without waves or swirls.

Plate glass registers an immediate impression of architectural refinement. The effect is the same in any building or house. Cheaper quality may be substituted in some materials without any great change in the appearance of the building. But substitution of common glass for plate glass is immediately apparent.

See that plate glass windows are written into the specifications. Ask any glazing contractor for prices on both plate glass and common glass. The difference in price is astonishingly small and is more than compensated by greatly increased value, rentability or salability.

PLATE GLASS MANUFACTURERS of AMERICA

Genuine
PLATE GLASS
MADE in U.S.A.

Use Plate Glass for:
Table Tops
Desk Tops
Windshields
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Window Ventilators
Mirrors

Nothing Else is Like it
Saving $100.00 For Every $7.00 Invested

The value of rust-resisting pipe like Byers is never better demonstrated than when comparing its extra cost with the saving it effects. For it is not only a question of replacing the pipe itself if it rusts out, but the heavy cost of labor, ruined fittings, and other items in the system. (See diagram).

No pipe system can long survive if made of pipe lacking the required rust-resistance. Pipe is but a small part of the cost of such a system, yet it is the one part which is most subject to destruction.

This is so because of the large surfaces of thin metal exposed to continuous corrosive attack. And when destroyed by rust, the pipe pulls the whole system down with it, causing a replacement expense exceeding the cost of the entire first installation.

Byers Bulletin No. 38, “Installation Cost of Pipe,” contains cost analyses of a variety of plumbing, heating, power and industrial pipe systems, with notes on corrosive effects in different kinds of service. Send for a copy.

A. M. BYERS CO. · PITTSBURGH, PA. Established 1864

New York Philadelphia Boston Cleveland
Chicago Houston Tulsa Los Angeles
NEW home of the Broadway Motor Sales Co., Chicago; a gem in small-building design; Mr. Percy T. Johnstone, Architect.

The plain and moulded surfaces of the terra cotta are tan and white in a mottled finish with dark mottled terra cotta base course. The ornamental features are emphasized by the use of the tan on backgrounds and in the depths of the ornament, with pure white on the high relief. This arrangement produces a notable and highly satisfactory effect in the frieze.

Attention is called to the placing of signs so as not to mar architectural beauty, and to the delicate detail of the ornamental features, the perfect alignment of courses and the excellent jointing and setting—usual characteristics of Northwestern terra cotta.

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These illustrations show the United States of America Government Building, designed by Mr. Frank L. Packard, Architect, of Columbus, Ohio. The building will be part of the Exposition at Rio de Janeiro, Brazil, and will later be occupied by the U. S. Embassy to Brazil.

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
October, 1922
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Mr. Alfred C. Bossom's drawing of the Dallas skyline shows that city's two largest structures — the American Exchange National Bank building, seventeen stories, and the magnificent twenty-eight story Magnolia Petroleum Company building, constructed of Indiana Limestone.

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Journal of the American Institute of Architects

October, 1922
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Granite - The Noblest of Building Stone

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from plans by
A. C. Bosom, Architect

Granite and a
Seaside House

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CONTENTS

A Recently Discovered Grecian Statue .................................................. Frontispiece
Shadows and Straws .................................................................................... C. H. W. 339
The Autobiography of an Idea—Chapter VI ................................................. Louis H. Sullivan 341
Towered Cities—II ....................................................................................... Georgianna Goddard King 346
The Tyne ....................................................................................................... Etching by William Walcot 353
To Foreign Lands in a Paper Boat ................................................................. Irving K. Pond 354
The Passing of the Skyscraper ..................................................................... George C. Nimmons 356
The Sub-division of Labor—II ....................................................................... Frederick L. Ackerman 361
The Question of Public Information About Architecture ............................. John V. Van Pelt 362
The Secretary's Page .................................................................................... 365
Community Planning and Housing ............................................................... Clarence S. Stein, Associate Editor 366
From Our Book Shelf ................................................................................... 367
Letters to the Editor ...................................................................................... 369
News Notes ................................................................................................. 370
Obituary ...................................................................................................... 370
Structural Service Department .................................................................... XIII

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Industrial Section
Journal of the American Institute of Architects
November, 1922
A Recently Discovered Grecian Statue
RECENTLY, in Dorset, England, Mr. Arnold Mitchell, an architect of London, discovered the statue of which we present an illustration on the opposite page. It is now in the Ashmolean Museum at Oxford. Dr. Gardner, Professor of Classical Archaeology at Oxford University, puts the date of the statue at about 300 B.C., according to the Times (London) and, from the character of the stone, considers its place of origin to have been in the neighborhood of Smyrna.

Once or twice before we have ventured to draw attention to the writings of Mr. Charles Marriott and again the inclination to do so seems stronger than we can resist. Writing recently in the Nation (London) of “Use and Beauty,” Mr. Marriott said:

“In a recent newspaper article a distinguished architect spoke of ‘the familiar fallacy that beauty is efficiency.’ It all depends upon what you mean by efficiency. If you mean only mechanical efficiency, of course it is a fallacy; but does anybody—can anybody, at this time of day—mean that? Surely, what is meant is efficiency for all the purposes involved. Nobody, for example, would call a business man efficient who disregarded the feelings of his clients, or a machine efficient which injured the people who used it. Our objection to a great deal of existing machinery is precisely that it does this; and practical efforts are constantly being made to remove the deficiency—not only as regards crude bodily injury, as in the case of the rock-drill, but the moral injuries which are summed up under ‘industrial fatigue.’ The writer went on to say: ‘Architecture, if it is to be good, must be efficient for its purpose, but efficiency for its purpose in architecture has a wider range than it has in engineering or in simple building.’ So far so good; ‘wider range’ is just, though one would like to know exactly when ‘simple building’ becomes ‘architecture.’ But then the writer added: ‘because in architecture the appeal to the aesthetic sense has to be taken into account, and if that appeal fails the architecture fails with it.’ So, in some degree, does everything else fail; because the aesthetic sense is present and potent in everything.

“What it amounts to is that the architect was right about architecture, but wrong about everything else. The ‘aesthetic sense’ is not something which we put on, like spectacles, when we look at architecture, and take off when we sit down to dinner. Like the poor it is always with us, and often most active when least convenient. So is the ‘appeal’ to the aesthetic sense; and the only question is whether or not the appeal shall be properly organized. In architecture, as in the other arts, it is; and that, no doubt, is why architects, like other artists, are apt to speak and write as if the appeal itself were peculiar to their work. They mistake the organization for the thing organized. In reality we can no more escape from appeals, agreeable or disagreeable, to our aesthetic sense from everything about us than we can run away from our noses.

“In theory it might be possible to distinguish architecture from building, but in practice they are inseparable. The reason is not so much a virtue as a fatality of the human mind. Try as we will, we cannot separate our material from our spiritual needs; and the Divine saying, ‘Man shall not live by bread alone,’ is equally true of the cupboard in which the bread is kept. What the author of ‘The Young Visitors’ would call ‘mere building’ might be a very desirable thing if it were possible, but it is not. For better or worse, the aesthetic appeal is always present, and the meanest building has an architectural character, though it may be a very bad one.

“If we say that architecture is building in view of all the circumstances, moral and material, we shall be near enough to the truth for practical purposes; because it implies the organization of the aesthetic appeal and leaves unquestioned the ‘wider range’ of architecture as compared with simple building. The difference between them is neither here nor there. The simplest
building is capable of architectural treatment, that is
to say, organization of its aesthetic appeal; but, in view
of its purpose, that side of the matter may be relatively
unimportant. Efficiency has a narrower range in a cow-
shed than in a cathedral, because the needs involved are
narrower. Though, even here, the needs are something
more than material. Grant—it is a mere assumption—
that cows are insensible to proportion; the people who
milk them are certainly not, though they may be quite
unaware of their sensibility; and, in the long run, a
well-proportioned cowshed—to the eye, I mean—is more
efficient.

"In all such discussions as that about 'use and
beauty,' or 'beauty and efficiency,' we are apt to reckon
without our host. The simple truth is that neither
practical nor aesthetic questions can be decided without
reference to human nature—which refuses to separate
them in its reactions. We are only just beginning to
discover how 'practical' the aesthetic problem really is.

Not to mention such special observations as the effect
of color on health, the investigations of psychologists in the
factory and the workshop have demonstrated the close
dependence of efficiency, in the most utilitarian sense of
the word, upon conditions and surroundings. We are,
indeed, only just beginning to recognize the profound
truth of Francis Thompson's 'Thou canst not stir a
flower Without troubling of a star.' . In a
dozens directions we are learning, often by painful
experience, that efficiency cannot be separated from its
aesthetic overtones without a loss in efficiency to that
extent. Nor, on the other hand, can the aesthetic
overtones be considered apart from efficiency without
serious danger to themselves; as we see from what has
happened in the arts of painting and sculpture. The
reason why architecture has, on the whole, escaped the
same fate is that it is more obviously—rather than more
closely—bound up with utility. If anything were
needed to clinch the connection, it would be that, when
the utility is partial, or prejudicial, the architecture
looks bad in proportion as it is well adapted to the
purpose; and we can only make our big shops look
tolerable by pretending that they are temples."

The facts about the vast housing program offered
to the people of England at the close of the war are
now out. A very recent report of the Medical Officer
of Glasgow states that "over 60 per cent of the popula-
tion of Glasgow are housed in not more than two
rooms, and this quite irrespective of the size of the families." Glasgow is the second city of the British
Isles, and has produced immense wealth. This same
tale is approximated in other towns. Since the war,
when there was a carefully estimated shortage of 850,-
000 houses, not enough new houses have been built
in England to take care of the normal increase of
population. The housing program was stopped be-
cause of expense, since when England has spent the
incredible sum of £133,000,000 in unemployment
"doles" and now faces the winter with a million and
a half idle workers! The condemned and insanitary
slums are still in use. Graham Wallas calls it a
failure in man's master task. Can such a statement
be disputed? Can any government survive, as Presi-
dent Harding has inquired, if it cannot solve such a
problem as the fair distribution of the necessaries of
life? The answer is that none has.

Little by little town planning has made some head-
way. The narrowness of view so long held by its
chief sponsors—they who advanced it as a means to the
"city beautiful" or as a method of stabilizing realty
values or of increasing them without in any way dis-
turbing the time honored way of building cities for
profit rather than for use—has long failed to win for
it any popular enthusiasm or understanding. And no
government of which we have heard has ever had the
courage fairly to face the problem of so controlling
the use and development of land that a halt shall be
called in the atrocious process of piling human beings
closer and closer and thicker and thicker. The problem
is an economic one and nothing else. All the skill of all
the architects in the world is helpless in the face of
conditions over which they have no control. Every
technical advance in planning or construction is im-
mediately capitalized and sapped of the economic ben-
fit it should confer. Nation after nation has come up
against this fact, and has retreated as best it could.
The will to change these things has perhaps generated
in the public consciousness, but the deadly hypnosis
of the profit idea still obscures the way. Until men are
ready to abandon that idea all governments will be
helpless. If patience is a noble test, it is sometimes a
dangerous one.

The building Guilds of England, believing that
the English Government has failed to keep its hous-
ing promises and seeing no possibility of getting the
necessary houses through private initiative, has formed
a building society based upon small subscriptions in
large numbers from wage earners all over the country.
As sufficient money comes in houses will be built and
the house will go to the subscriber selected by lot.
The method of providing houses will be slow at first,
but the Guild believes that it can in the end make
headway even against the present lack of capital and
that it can also provide easy methods for financing the
furnishing of the house as well. We hope to publish
further particulars of this plan later.

At the recent Library Association Conference in
Cardiff, Dr. Davies proposed a novel (so far as we
are aware), addition to library facilities. Quite
truthfully remarking that music had in the end to be heard
if one were really to come to an intelligent sense of
THE AUTOBIOGRAPHY OF AN IDEA

it (although certain accomplished people do read scores with keen interest and understanding) he suggested the provision of sound-proof rooms in libraries. To these musical students might repair and there, with the aids of records and gramophones, might run the entire gamut of music as easily as they now explore the vast heritage of literature.

THE INVENTOR of the gramophonophonic film has this to say of the future of his mechanism: "Its educational possibilities are immense. The board of education, for instance, draws up the synopsis of a lecture; that lecture may be given by thousands of teachers, and each would be different. But with this machine a lecture could be standardized and given all over the country in exactly the way the board would wish it." Standardization, it seems, is headed even for this end too horrible to contemplate. No wonder that Mr. Penty cries out that not another machine shall be invented without the sanction of some superextraordinary and intelligent guardian of mankind.

C. H. W.

The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER VI.

Boston

AS ONE in tranquillity gazes into the crystal depths called Memory, in search of sights and sounds and colors long since physically passed out from what is otherwise called memory; when one is intent, not upon recalling but upon re-entering, he finds a double motion setting in. While out of the gray surface-obscurity of supposed oblivion, there emerges to his view, as through a thinning haze, a broad vision assuming the color and movement of a life once lived, of a world once seen and felt to be real, so likewise, the intensive soul moves eagerly forward descending through intervening atmospheric depths toward this oncoming solid reality of time and place, a reality growing clearer, more colorful, more vibrant, more alluring, more convincing—filling the eye, the ear with sound and color and movement, with broad expanses, with minute details, with villages, and cities, farms and work shops, men and women densely gathered or widely scattered, and children, little children always and everywhere. So moving, the two great illusions, the two dreams of the single dreamer, accelerating, rush onward, and vanish both into a single life which is but a dream: the dream of the past enfolding and possessing the dreamer of today; the dreamer of today enveloping, entering and possessing the dream-reality of the past; all within the inscrutable stillness of a power unknown, within which we float, with our all, and believe ourselves real. We believe in our reality in our strenuous hours, in our practical doings, in our declamatory moments, and even in our hours of silence. In sleep there come images before us, floating by, irretrievable, or steadfastly convincing; and these we speak of casually as dreams. We are willing even to extend the idea of dream to man's ambition. We say such or such a man had or has dreams of empire, of dominion, of achievement, of fulfillment of this or that sort. And occasionally we acknowledge, upon information, that such dream had taken full possession not of a man we read about, or see in the plenitude of his power, but that the dream arose within a child, in broad daylight—as nightdreams do in their way—and aroused in him a passionate desire.

We do not associate the idea of dream with our strenuous hours of thought and deed in the selfsame broad daylight. Nor do we see the stars at noon—but they are there. So is a dream there, within every human, ever—day and night unceasingly.

We impeach the dream idea, calling certain men "Dreamers." We do this in derision—much as the pot might call the kettle black. We do not suspect that we could not put one foot forth before the other were we not dreaming: so artificial and sophisticated are we in our practical moments. And it is even so as we forget that each of us was once a child; even as we banish the thought, as crude, that out of that very child we have grown inevitably to be what we are; that the thoughts, the feelings, the emotions, the reactions, the waking dreams of that child have governed and determined us, willy-nilly, through the course of our lives and careers with compelling power—that what the child accepted we accept; that what the child rejected we reject.

Thus from the abysm of Memory's stillness, that child comes into being within Life's dream, within the dream of eternal time and space: and in him we behold what we were and still are. Environment may influence but it cannot alter. For it is the child in multiple and in multiple series that creates the flowing environment of thought and deed that shall continuously mature in its due time. It is the moving child-in-multiple of long ago that created for us the basic environment within which we now live. Thus in a
memory-mirror may we re-discover ourselves. Expecting to find therein a true reflection of ourselves as we believe we are, the image dissolves as the features of a long forgotten child confront us. Deny him, we dare not.

Turning about from self-contemplation we find children everywhere. We see the tidal wave of children moving on and on, we partly under their dominion, they partly under ours. But theirs is the new, ours the old; and, as ancients, we move on, unchanged from the children that we were—leaving our thoughts and deeds as a beaten trail behind us.

With this image in view the narrator has laid extended stress upon an authentic study of child life. Maturing years have made it but too clear that only on such foundation, resting deep within the vast-moving and timeless heritage of Instinct and Intellect, might a valid superstructure be reared into the light of our day. Men in their faculty believe that they cause replicas of themselves to be born of woman: that they create children like themselves for themselves. Hence but who, it must be so, are in essence of being with the unceasing flood of child personalities, accepting or rejecting influences in an environment they had no share in making. Historically, and in mass, victims of Fate rather than Masters of Destiny. For Destiny and Fate alike have birth in what is accepted or rejected by the child.

* * *

With this digression as a commentary we may now resume in its natural course the story of a growing child well known to us, and proceed to extend that series of rejections and acceptances—beginning in his infancy—into an ever enlarging world of fact and fiction until we may perchance obtain a glimpse of what they really were, and of their significance in determining his onward drift—a drift that as yet has developed no self-defined momentum.

Shortly after their return to Boston from Newburyport, the father, for reasons of his own, whatever they were, decided to move his family to Halifax, Nova Scotia. They were away six months.

* * *

A small boy stood on the dock at Eastport, Maine, holding in his hand a huge greengage plum. The same small boy suffered and saw the agonies of those who cross the Bay of Fundy. He saw and lived in a hotel in Halifax, where an Academy was opened. Later he endured in patience the terrible discipline of his father, who in below zero weather walked him for miles along the bleak “Northwest Arm,” to return with white cheeks and nose, only to be told to wash his face in snow—the father doing the like. He saw his Gods blasting a deep trench for water pipe through the solid slate ledge, and again he marvelled at what men could do. He saw the great citadel crowning the heights, and from it, he viewed the harbor. Then came calamity. Mamma was taken down with diphtheria; and he saw the great and grand Newfoundland dog, that had welcomed them efficaciously on their arrival and had adopted them at once, lying day after day, night after night, faithfully guarding her chamber door. Mamma recovered; but her illness was prophetic of change.

In the spring they returned to Boston, and Louis was sent to live with his grandparents in South Reading, as before, with the proviso that he was to return to his parents in the fall. He became at once deeply immersed in the miniature activities of the farm, taking the initiative wherever he could, doing small things with large enthusiasm. He did not consider such things work, but joy. He was physically active and mentally active too. He was always excited in his work and always constructive. As Grandpa also worked, they became great pals, and planned and worked together. His natural surroundings became less mystical to him. He held them in affection, but no longer in dreamy wonder. The delicate bloom of early childhood was past and the vigor and aggressiveness of budding boyhood were rising as branches from the same deep root. His love of the open remained constant and intense. He was developing pride, ambition, and a sense of growing power over material things. The desire some day to exercise such power to the full became in him a definitive dream, within which, unnoticed, was resident the glow of a deeper power—a power that had suffused a swiftly-moving, vocal springtime, which he had seen and heard and lived in this same spot.

Grandpa did not bother about the child’s education, for, being wise, he knew the child was daily self-acquiring an education exactly suited to his temperament and years. But Grandmamma believed otherwise. She thought her grandson needed polish, and that he should now begin a systematic study of the French language. Louis was willing enough and started in gaily. He liked the sound, and the words in italics looked pretty; all went well for a while. As he got in deeper he began to be oppressed by the inanities of the grammar-book, and the imbecilities of a sort of first reader in which a wax-work father takes his wax children on daily promenades, explaining to them as they go, in terms of unctuous morality, the works of the Creator, and drawing therefrom, as from a spool, an endless thread of pious banalities. Louis rebelled. He declared he was an AMERICAN BOY!—that none of his playmates spoke French—why should he? Grandmamma, in habitual indulgence, discontinued polishing. She could not enter the child-mind. To
her, her grandson was an object of boundless love—and little more: and yet this little more was an impassible gulf, lying as a chasm between old age gently petrifying in the thoughts of her own childhood, and a vigorous young animal with thoughts and an impetuous will of his own. And he in turn held his grandmamma to be the sweetest of mortals—and little more.

Thus summer passed on broad pinions sweeping, and Louis saw it moving thus. He saw such things. Beneath all the overlay the child was a mystic: inarticulate, wondering, believing. These fleeting revelations of Life came and went as interludes within the chosen practicalities of his realistic and material activity. He had rather help build a stone wall than listen to a poem—all except the fairy tales that Julia told: for here was Romance—and romance he could not withstand.

One morning; it happened to be September 3rd of that year. Louis Henri Sullivan arose early and saluted forth in pomp and pride. On the Stoneham road he met a farmer friend:

Hello! Do you know I am eight years old today?
No; wall, wall, that's fine. Heow old did yeh say yeh be?
I am Eight! Don't you think I'm a big boy now?
Do you want to feel my muscle?
My sakes—but yeh aire strong!
Yes I am. I can lift a stone almost as big as my grandfather can; but of course he's older.
How old did yeh say yeh be?
I say I am eight years old today and I want you to know it. Do you want to pound my chest?
Can't say's I do.
You may pound my chest as hard as you like and I won't say a word. Have you noticed my new boots? It's my first pair. My grandma gave them to me for my birthday. No I hadn't saw them.
Well, look at them now. See; they're copper-toed and have red tops. Don't you think they're fine?
Yaas; how old did yeh say yeh be? I think yeh got a mighty fine granny t'give yeh them boots.

And the Ancient doddered down the road dustily regurgitating the thoughts of his childhood now become decayed and senile; while bounding boyhood clattered on, from house to house, from field to field, wherever might be found man, woman, or child to whom he might sing his own saga in vainglory. For was he not right? Was he not Eight? Was he not heroically aware that that day he was crossing the invisible line between childhood and boyhood? Were not the gaudy boots his plain certificate of valor and of deeds done and to be done? Were they not for him symbols of that manhood toward which he so ardently yearned that his pride might come to the full? He said it was so. In this joyous mood was his saga sung, as of one with a growing faith.

Then came, as it were, a bugle call from the south. He answered the call in person. Boston City swallowed him up.

The effect was immediately disastrous. As one might move a flourishing plant from the open to a dark cellar, and imprison it there, so the miasma of the big city poisoned a small boy acutely sensitive to his surroundings. He mildewed; and the leaves and buds of ambition fell from him. In those about him, already city-poisoned, even in his own kin, he found no solace, and ceased openly to lament. Against the big city his heart swelled in impatient impotent rebellion. Its many streets, its crooked streets, its filthy streets, lined with stupid houses crowded together shoulder to shoulder like selfish hogs upon these trough-like lanes, irritated him, suffocated him; the crowds of people, and wagons, hurrying here and there so aimlessly—as it appeared to him,—confused and overwhelmed him, arousing amazement, nausea and dismay. As he thought of the color, the open beauty of his beloved South Reading, and the great grand doings of Newburyport, where men did things; where there was obvious, purposeful action; an exhibit of sublime power; the city of Boston seemed a thing already in decay. He was so saddened, so bewildered, so grieved, that his sorrow, his bitter disappointment, could find no adequate utterance and relief. Hence he kept it all within himself, and became drugged to the point of lassitude and despair. The prospect of a whole winter to be spent within these confines, shut out from the open world that had been growing so large and splendid for him, filled him at times with a sudden frantic desire to escape. Had not his father at once taken up again the rigorous training of cold baths and outdoor exercise, had he not taken him on long walks to Roxbury, to Dorchester, even to Brookline, where the boy might see a bit of green and an opening-up of things, the boy would surely have carried out his resolution to run away. To run where? Anywhere to liberty and freedom!

He had partly revived from the first shock, when his ruthless father placed him in the Brimmer School on Common Street. Louis found it vile; unspeakably gloomy; a filthy prison for children. He learned nothing. There was no one to teach him, and what he saw there shall not be recorded here. So passed the winter; Louis looking, ever aimlessly, yearning, for a teacher. As a rose springs upward from the muck and puts forth gracious blooming, even so out of the muck of this school a reaction sprang up, a fervent hungered yearning within, for a kindred spirit to arise that might illumine him and in whom he might rejoice; a spirit utterly human that would break down the dam made within him by sanctioned suppressions and routine, that there might pour out of him the gathered
cesspool, and the waters of his life again flow on. Of such nature was the hunger of a well-fed child.

As the Boston winter of '64 was groaning on its way to the tomb of all winters, Mamma was again stricken with diphtheria; and again she recovered. The city winter passed, a city springtime passed. With vacation at hand, Louis returned to his grandparents, resumed his activities, and extended them. His activities now enlarged in scope, and in the fall returned to the City, his wounds somewhat healed. He was immediately placed in the newly organized Rice School, temporarily housed in another gloomy structure, but not so foul—at that time situated on the west side of Washington Street and a short distance south of Dover Street. Here he learned nothing at first except in-so-far as there was a sort of mechanical infiltration going on. But, at a nearby book store, "Beadle's Dime Novels" appeared in a whirlwind of popularity. Louis Sullivan pounced upon them. He devoured the raw melodramas and cried for more. Here at last was Romance! Here again were great men doing great deeds. Here was action in the making. Louis returned to his grandparents, Washington Street and its Rice School, where he was segregated until his education he possessed partly through a series of special points of beauty in the land and waterscape, finally coming around to the Blue Hills, which was more than he ever got out of the education he possessed partly through a series of special points of beauty in the land and waterscape, finally coming around to the Blue Hills, which was more than he ever got out of the commonplace a clearing sense of what a city meant objectively as a solid conglomerate of diverse and more or less intricate activities. He began indeed to sense the city as a power—unknown to him before—a power new-risen above his horizon; a power that extended the range and amplified the content of his own childdream of power as he had seen it manifested in the open within the splendid rhythm of the march of the seasons. Nevertheless, he saw, in his boy-way, and felt it strongly, a great mysterious contrast between the two. In the open all was free, expansive and luminous. In the city all was contraction, density, limitation, and a cruel concentration. He felt that between himself and the city, as such, lay a harsh antagonism that seemed forever insoluble; as though men had made the city when they were mad; and that as it grew under their hands it had mastered and confined them. Yet men, women and children seemed to move about freely enough at certain hours. These waves of doubt and apprehension came and passed at intervals, but each wave left its precipitate, in solution as it were, in the boy's quizzes mind. He became less and less unfriendly toward the school, as sporadic knowledge crept out of his books and took on a certain segregated appearance of validity, having slight connection, however, with his own world. He ceased to be wholly rebellious, and took his small doses of formal routine education much as he might take a medicine supposedly for his good. Thus far his father had been his only successful teacher.

The boy had acquired and was continuing to acquire the education he possessed partly through a series of shocks—frequently humiliating—which inverted his illusions into realities; partly through his own keen powers of observation, and perhaps something in the way of intuition; but mainly and fundamentally through his high sensitiveness to externals which, always with him, took on character, definition and, as it were, a personality. He was now ripe for another shock.

One day his father took him on a walk to South Boston. Louis Sullivan was walking with his father down the street, when suddenly his father stopped and said, "Which of the two hills is the highest?"

The boy gazed in thrilling wonder, his father called attention, one after another, to special points of beauty in the land and waterscape, finally coming around to the Blue Hills, which indeed were blue and enchanting against the far horizon and its haze. After explaining the nature of the haze, his father called attention to two outstanding peaks, near together but differing in size, and asked his son a point-blank question:—Which of the two hills is the highest?
larger? His son walked straight into the trap, saying that of course the larger one was the larger—why did Papa ask? Then the trap fell—knocking Louis senseless—for Papa said, (beyond a doubt maliciously he said it) that the smaller was the larger. When Louis came to, he protested vehemently; but Papa said he had been there and knew. Then, relenting, believing he had carried his practical joke far enough, he told his son, seriously, that the effect, the appearance, the illusion was, in fact, due to what he called PERSPECTIVE; and the nature of this particular perspective, and perspective in general, he explained with notable skill, simplicity, and with many objective instances. But Louis instead of receiving this information with acclaim and joy, as a new world opening before him, was deeply saddened and perturbed. His father, sincerely believing he was educating his own, came near to destroying him. He was no psychologist, he had indeed but little human sympathy or insight—hence he had no suspicion of what was going on beneath the surface of his own son. For had not that son built up a cherished world all his own, a world made up of dreams, of practicalities, of deep faith, of unalloyed acceptance of externals, only now to find that world trembling and tottering on its foundations, threatening to collapse upon him, or to vanish before this new and awful revelation from the unseen. This ghostly apparition which his father called “perspective” terrorized him. What his father said about it did not help. For behind the perspective that the father saw was a perspective that the child saw—invisible to the father. It was MYSTERY—a mystery that lay behind appearances, and within appearances, and in front of appearances, a mystery which if penetrated might explain and clarify all, as his father had explained and clarified a little. Did this mystery reside also in his lovely slender elm tree? Was his great friend the ash tree involved in mystery? Was the sunrise that lovely slender elm tree? Was his great friend the sunrise that lovely slender elm tree? Was his great friend the lovely slender elm tree?
be said in a whisper—Mamma should have known that Louis’ hands were not made for the piano. Louis did not know it; yet there lay all the trouble.

Then the father thought he would teach his son drawing. His son thought otherwise. His son detested drawing. The prospect of copying a lithographic plate setting forth a mangle, a step-ladder, a table, a mop and a pail, was not alluring. Louis demurred. Father thought a thrashing would help along some. He started in. A she-wolf glared. He quailed—End of still-born drawing lesson. No series.

Meanwhile the name of the village of South Reading was, by popular vote, changed to Wakefield. Cyrus Wakefield, rattan magnate, thought it good business to offer a new town hall in exchange for his name. The townspeople thought so too. The deed was done; both deeds were done; and, as if on a magic carpet the farm that Louis had lived on floated from South Reading into Wakefield—meanwhile remaining station-

ary as of yore. This occurred in the summer of 1868 when Louis was in his twelfth year.

Meanwhile, also, in 1868, a new school building was in course of construction on new made land in the Back Bay district. It was to be up to date in all respects, and was to be called The Rice Grammar School Building.

In the winter of this year, Mamma, for the fifth time, was stricken with diphtheria and her life despaired of. She pulled through on a perilous margin. Father, now thoroughly frightened, finally got it through his head that the east winds meant death. So in the summer of 1869 he moved his family to Chicago—leaving Louis behind, to live with his grandparents, and continue his education. Louis sobbed on his Mother’s shoulder, but was much relieved to say to his father: Good-by! Now he was free!

(To be continued)

Towered Cities—II

By GEORGIANNA GODDARD KING

Photographs by E. H. LOWBER*

THE cities of Spain are more precious than anything they contain; and that is the ultimate miracle. You cannot enumerate and itemize Toledo or Cuenca like a museum, or like Venice, or like the Lake Country of England. You cannot offer a picture of Alarcón or Trujillo, though you may photograph in Bruges or sketch in Toulouse. It is as the traveller from southern Tuscany feels the heart in his bosom stirred by the thought of Radicofani hanging far off in the pale air, or indeed by the very name of Acquapendente, though he cannot explain what he means in a London hotel to his brother-in-law.

Take these just named, Toledo and Cuenca and Alarcón. They are set high, and look abroad through a blue immeasurable distance, and rivers lie coiled about their feet; as on the coins of eastern capitals, Antioch or Lystra, Iconium or Barata, the city sits enthroned upon her mountain and the river-god is under her sandal; she is consecrated with a mural crown or she wears the horned moon for a jewel on her brow.

No two of them are alike in memory, notwithstanding. At Toledo the brown Tagus has cut down through the purple shale and there is not a blade of green to be seen: the "cigarrales", where you walk on the heights over against the city, are set out with silvery agave tipping the red earth banks or planted with olive orchards blue as smoke where you look across their tops to the ancient city. At the weirs the river shows its teeth, and sends up irregularly a faint rustling noise, lost when a mule shakes his bells on the Puente de S. Martin, and from high among the rocks still you may hear his driver, "Arré, burro!" At the sanctuary of Our Lady of the Valley, terraced out where two gorges are cloven down toward the stream-side, a little bell clatters and whimpers below your feet; it is sunset there above the darkening waters, though across on its citadel height the Alcazar shines bright as marble and the cathedral spire is filmy and fair, and the grave male towers of brickwork, S. Thomás, and S. Roman, and S. Andréás, and the twin towers of the Baptist are ruddy till long after the bell has ceased. Then the Toledo of Greco is seen in lilac-blue; like an enchanted city it hangs its towers against a sky as pale as glass, and darkness comes up cold out of the river-gorges, and the sound of the waters is constant. Flocks go by on the road with a hurried tinkle and a muffled patter. Walking is easy on that lonely road, in the clear dark, where Angel Guerra passed so many times; but the descent is long to the bridge where about the piers the foam-flecks swirl white and lip; and the climb is even longer by narrow winding streets where the third turn to the right and then two to the left may signify the way home, but anything else means getting lost completely.

* Photographs reproduced by permission of the Hispanic Society of America.
TRUJILLO:
A palace in the square
Cuenca is unlike Toledo, as Rachel is unlike Leah. Among all the memories of wayfaring in Alps and Pyrenees, of the Velay, of the seaside peaks of Greece, there is none to overpass or outweigh that of the far-flung approach by the western road to where Cuenca couches like a lioness in the gateway of the hills. About Cuenca* the streams are swift and clear; below Cuenca the poplars are tall and never still. The houses clinging to the rocks like nests of swallows that have returned with recurrent seasons longer than recollection can count. Up the gorge of the Jalón the rocks are tossing with creepers, planted with vines and gourds and heavy-leaved fig-trees; and the noble arches of the

* See March, 1919.

Moors’ aqueduct close the view at the last turn. Up the valley of the Jucar the hillsides are austerer, stubble-marked and gravelly by turns; as we leaned on the bridge in autumn a boy stopped to lean beside us and look, and cried out, “The wood is coming down!” Yes, all the tall sweet-scented pines which were cut back in the hills through the long summer months, now that the autumnal rains had swollen the stream, were floating down, lazily, dangerously; by next morning the men were out with steel-shod poles at the turns and bridges, and at the pool below the town they never rested.

The town itself reaches back into the hills, and passing through the upper gate the traveller goes on up, where peasants come down driving their two or three donkeys or where long strings of mules shake their ears and stamp before the little venta that thrives just out of reach of the octroi. The shade and the wine are cool there; but indeed tavernors and landladies are uncommonly well-provided and friendly along all this outlying edge of New Castile. The gates hereabouts are built like castles, with two good strong square towers and an arch between, defensible from either side, whether invaders were to be kept out or rebels, belike, besieged. The tradition of these fortifications is perhaps Arabic, for Cuenca was founded by the Moors and a long time held by them; it fell finally to Alfonso VIII and belongs, though not to the domain of the Order of Santiago already established at Uclés, yet to that region and to the style of the Order.

To the eastern marches of Santiago, and the protection and influence of Uclés, belongs the forgotten city of Alarcón. It is situated on the Jucar, a good bit further down its course, and close to the old road that comes up from Valencia to Madrid, passing near Uclés and through Tarancon and Aranjuez. Cuenca is not on this road, but the way from Cuenca to the sea comes into it at Minglanilla, soon enough to take its passage through the superb gorge of the river Gabriel.
TOWERED CITIES—II

Thence we drove through glittering wheat-stubble and purpled vineyards to Alarcón by way of Motilla del Palancer. I take the name of that tiny and ancient burgh to indicate some perishing memory of a mound and a palisade. The walled village lies hardly bigger than a grange but with castle-keep and church yet standing, yet habitable, and the white argosies slowly sailing overhead. It is not only picturesque but entirely typical of these wide upland plains reconquered only as the twelfth century closed; and the village was all pink, stone, plaster and rooftiles alike.

Thence we dropped steeply to the river valley, which is said to be lovely when wheat is green. Northward a mound showed the site of Valhermosa; it was just the situation where Cistercians loved to alight. The earth hereabout is almost Indian red, and already on Holy Cross Day (14 September) it was turned up by the autumn ploughing. Milky green, the river lay in the burning metal of the hillsides. Breath of the thyme that stood pallid amid the dark patches of juniper and rosemary, mingled with the scent of the fresh-turned clods. A lonely tower on the edge of the world marked the city; only as the trotting mare came close the square towers of the gate-house rose up, and beyond that the keep with overhanging battlements; then the whole grey mass of the Alcazar loomed like a ship in the offing; lastly a grey churchtower or twain could be made out beyond. Where the bridge entered the town, with but a short steep climb to breast the hill-crest, we looked far down, at the left, past crumbling banks to the Alpine-green water flecked with white, and a terraced road that toiled over the bastions of the opposite hill. So from the Alcazar, on the other hand, we peered into another gorge where the arched gateways of the walls spanned only sheep-tracks now, and the juniper and wall-flowers rooted in the scars of machicolations. The city that once had covered the level plain stood looked abroad with level facets of the distant hills. Often the Annals repeat the name, for the inhabitants were men of war, and they fought as a free commune in the great battle of Las Navas, in the twelfth century. The Toledo Annals record that in 1184 Alfonso VIII captured the city and ten years later gave it to the Knights of S. James. But they did not keep it. Often the Annals repeat the name, for the city figure largely in the reign of John II. The wealth of the city lasted so late that all the surviving churches belong to the age of Charles V and show the plateresque style. A lord of Alarcón was famous in the battle of Las Navas, turned back the Moslem rush from Europe. In the Chronicles thereafter the name is frequent, for the position was important and the Procurators of the city figure largely in the reign of John II. The wealth of the city lasted so late that all the surviving churches belong to the age of Charles V and show the plateresque style. A lord of Alarcón was famous in the battle of Pavia, and the gesture of Velázquez's general perhaps belongs to him and to the proud hour when the captive François I was consigned to his charge: "his Commentaries," says Ford, "are truly chivalrous and interesting." Few traces of the Gothic age remain; an arched doorway is serving still for daily passage; a sunny doorjamb, may be seen the English dog-tooth moulding that the English Queen Leonor brought to Cuenca. The churches seem abandoned and not only locked but nailed up, impossible to visit, though there is said to be a good retable with two more flanking it, in S. Juan. Of Santiago nothing is left: S. Domingo de Silos surprisingly flowers around the portal in to the scalloped cuspings familiar in the
CUENCA:
The upper town
Yet the settlement is ancient; and moon-marked stones declare that there once Astarte or Anahita was worshipped, and the city shield still bears the Queen of Heaven, and Cervantes has a pretty phrase about the old worship of Diana transferred but unaltered. The Arabs prized the place and their baths may be seen there yet, and their cistern; and another cistern has been lately built, identical in plan.* Indeed the water was always good here, and plentiful. The church of S. James, in the upper town, from which the Conquistadores took their license, has been stripped for sale of what the French and the revolutionaries had spared; but S. Maria is still magnificent, in a fifteenth-century style but loftier, purer and more elegant; high and not too wide, with a good nave, arcade and chapels that perform the office of transepts, and a magnificent Primitive retable of five-and-twenty panels.

The Renaissance building in Trujillo was late and sudden and short: it is very pure, rich and lovely. To concentrate ornament on a single window in a granite wall was learned in Salamanca for a great excellence and practised here as a badge of subtle pride; the window is often set in the corner of the house and in time one learns not to mislike it there. Along a steep street above the square is set a palace that turns on itself at an angle and carries a small and exquisite loggia opening up there in the wing, topped by another story, which has more of delicate and reticent beauty than can be expressed.

The finest of all the houses flanking the vast square below had such another loggia, though now built up and such another window; the town hall is open on the ground floor, set upon arches like those of Bergamo and Como; Hernando Pizzaro’s palace is the biggest and splendidest of all. But indeed it were a week’s work to learn the houses here, and a month’s lesson to savour all the history. In the upper town the castle still crumbles, and the houses are built into and over against the living rock, and the walls reach down and out, and by the towers you may know the site thirty miles off. Granite is the temper of the race: courage and freedom have nested in that eyrie like eagles that come back to their rock.

There is a tale of the Constable D. Alvaro de Luna; how he discussed the surrender of it with a Bachellor that was the Princess Catharine’s representative, under the postern gate, and suddenly the two clinched and rolled down the steep sward; and when the Constable’s men picked them up they kept the Bachellor and so got the city; there is another of the Master D. Juan Pacheco, how he died when besieging the place and the Alcayde surrendered to a dead man, and was torn to pieces afterward by the populace in a Gallegan town. Always strange haps and disastrous chances fell thick.

* See photograph, August, 1921.
and the French sacked and burnt, Wellington being more occupied with sparing his troops than with saving his allies. Yet spotless and untarnished is still the shield, and the great memory of the adventurers who went out to the Conquest of the Southern Sea.

Pizzaro may have been born out of wedlock, as legend says, but he was born in a casa solar; it is doubtful whether he herded swine under the live-oaks of the adjacent hills, but certain that he learned to manage men from his father who was a captain in the Italian wars. He went early to the quest of honour and fortune in the New World just announced, and he went first to the search for Peru and the Pacific and the man-eating hordes of the south, that wore feather-woven raiment and drank human blood from cups of soft and virgin gold. A kinsman of Hernando Cortes, he had already crossed the Isthmus with Balboa, and again alone, when at last the great adventure of the South beset his imagination, "and," says the historian, "he drew a line with his sword's point as the term of the immense labors necessary for the conquest, and invited whoso would cross with his." Of the thirteen men who took that step that day, one other was a fellow from Trujillo; it was but a single step, but it was the first of a long way to go. Francisco Pizzaro was to see his home twice again, to collect money and bring back his brethren with him, and to leave his bones in Peru. D. Gonzalo Pizzaro died also in the Americas, and D. Hernando was falsely accused, and wore out twenty years in prison before his enemies were confuted and his honor vindicated. Then he came home to dream, in the granite streets and under the oak-woods, of strange cities planted among the clouds and of the gorgeous swamps of the Amazon, of long-dead companions in arms whose faces were plainer to consciousness than those of their children's children who passed and saluted him in the square and pointed him out to one another, noting what medal he wore in his cap and what fashions he trimmed his beard.

Along the road, in coming from Caceres to Trujillo, we had seen the broad strip of turf left on either side of the roadway for pasture of the sheep in the long travelling of the mesta, the annual migration; and as we came back in the diligence after nightfall we were to see the shepherds. It was winter time, but hereabouts the oaks are evergreen and, herdsmen still shake down acorns, as on cathedral portals, to fatten their swine; we had seen the clean sweet city, so ruddy and fresh-smelling, so like lusty age; we had halted in the darkness at a venta black against the stars. There lights were flaring and thence as the door opened the whining bagpipe could be heard, and coplas in a long crying, and rude mirth. At the side a firesmelling of juniper flung up hissing sparks that danced above the red and yellow flames. Out came a sunburnt shepherd in his sheepskins, in his soft, peaked hat like a Sicilian or Vergilian figure, to peer into the diligence, with pipe in hand and shaggy wallet on shoulder to whom we gave a piece of silver for pity of his long travelling.
THE TYNE
An etching by William Walcot

Courtesy of A. C. and H. W. Dickens
To Foreign Lands in a Paper Boat

By IRVING K. POND

Toward the end of July I opened a package containing foreign architectural periodicals which I began immediately to peruse with the idea of reviewing for the JOURNAL. Fate interposed and sent me post-haste to the hospital to be diagnosed, doctored and set surgically to rights; and here am I after mid-September taking up the task which was so rudely interrupted; for fate can be rude, though in the end it was very kind to me. I preface this article thus that the reader may know why at this late date his attention is called to events so long past, such as the election of the new council of the R. I. B. A., the bestowal of the R. I. B. A. gold medal upon Thomas Hastings, Esq., and other matters which by this time are more or less ancient history.

The Hastings incident involves nothing of a controversial nature—everybody is satisfied, everybody is happy. Everybody by this time has read the presentation address and the learned and lengthy response of the recipient. Everybody knows that it was the intention of the Royal Institute in bestowing the medal at this time not only to honor a great American architect, but also to indicate a kindly appreciation on the part of the British architects of the high place which American architecture generally holds in the domain of architectural art today. So we all are made happy in Thomas Hastings’ supreme happiness.

British Architects and Unification

One of the periodicals before me refers good-humoredly to that which caused the retirement of the old Council of the Royal Institute to private life, and the election of one in opposition, as one of the “burning” questions of the day. It is more than that. It is, like all controversial matters in architectural policy and practice, a perpetually “burning” question—a burning question for all time. It is like an asbestos gas log. One can instantly produce a flame and incandescence merely by turning on a cock simultaneously with knocking the ashes out of one’s pipe. Unification and Registration are as perpetually burning with our British brethren as competition procedure, prying a fellow architect loose from his job, and the schedule with its absolutely impossible interpretations and possible and altogether probable misinterpretations are with us. By the bye, some of our British confrères are considering a sliding scale, not at all dissimilar to that which our own Institute refused to hear discussed some dozen years ago. I was interested in the attitude of the British architectural press toward the election of the new Council of the Institute which carries a repudiation of the majority report of the Institute Committee on Unification and Registration and an, at least partial, endorsement of the minority report. The tone of The Architect, which is anti U. and R., is, in a measure, exultant; that of the pro U. and R., The Architects’ Journal, is a bit depressed; as though one should say: God’s will be done, (though not too fully nor over too extended a period!). The paper hopes for better things in the end. And so does The Architect, which is opposed to both Unification and statutory Registration; its feelings, as expressed in the issue before me, and my own are very much in accord. I stated mine in this space in August last and need not repeat them now, but I was gratified that, counter to my prophecy, the British Institute was not swept off its feet.
by the present craze. By the way, while I appreciated being quoted in the Journal of the Society of Architects for June, I am sorry that in so far as the remarks on "Who is an Architect" are concerned, proper credit should not have been given to "W. P. B.," who alone was responsible.

Architecture of the Aliens

In The Architect one modest little review of "The American House" challenges my attention: "The best American houses are those which are built on simple, classical lines. . . . In these two types, the ordered classical house and those founded on Colonial precedent, the greatest success has been achieved. To these we might add the fine house based on Spanish traditional lines, many of which are to be found in the West." Is it because the classical and Colonial houses are sticking so closely to English precedent that The Architect finds them pleasing? Are these houses "successful" because they are in a style already over-developed and run to seed; a style in which there is no chance for imagination or play of fancy? "But where American architects attempt to base the designs on Tudor or earlier precedents of earlier character they almost uniformly come to grief. It is to be hoped that American architects will either abandon the attempt to do what is evidently alien to them or give more time and study to the English precedents which they do not yet seem to understand." My opinion is that when any architect, British or American, draws academically on these former styles his work is lacking in fancy, in vigor, and in charm. The Tudor and the earlier forms are no more alien to the American than are the "ordered classical" or the Colonial or, for that matter, the Spanish. We, some of us over here, came to America by the way of Normandy and Britain, long ago, perhaps, but with a heritage in common with the best of the Britons of today. In fact there is nothing "alien" to us Americans if you take us as a whole. What we have to do is to take what is fundamental and basic in all the architectural manifestation to which we are heir and upon those fundamentals base what in time will be a rich, complete and unified expression of ourselves. That is why some of us think that America is not helped in the solution of her problems by those who are content to copy, slavishly or otherwise, Tudor, Colonial—which is Georgian—French, Italian, German, Scandinavian or South European architectural motifs or social customs. We, some of us, admire in some of the British their power to get at fundamentals and on those fundamentals to build sincerely. There is nothing slavish or dilettante in the work of Norman Shaw, H. Wilson, the always charming Ernest George, the vigorous and virile Leonard Stokes, the less vigorous but still virile Aston Webb, G. Gilbert Scott, and many others who, like these, inspire in a real American a spirit of emulation. I can well imagine that some of the American return to or insistence upon fundamentals might seem an expression of crudity in some British eyes. Indeed I was so impressed when I read the closing lines of the principal address at the recent convention or gathering of the R. I. B. A. at Cardiff. Now in quoting the "poem," with which the speaker urged cautionary measures, the American would not have tried to soften the fundamentals in the cause of refinement. He would have used the original word "swim" rather than "bathe" and, rather than "gooseberry bush," the staunch old "hickory limb," which you will note rhymes with "swim," would have been suggested as the proper object upon which darling daughter should hang her clothes. Men (and daughters) swam thousands upon thousands of years, probably, before they bathed. At this late day no daughter would think of asking her mother's permission to bathe. (But, after all, therein perhaps is where the pleasantness lies—and all these years since babyhood I have missed it).

This same number of The Architect gives several illustrations of the grossly misapplied architectural embellishments of the saloons of a mammoth ocean liner, only the editor does not so catalogue them,—and also we are given plans and illustrations of the new London County Council building—the London County Hall—and here I feel myself up against something whereof by nature and training I am unqualified to speak. However, in spite of that feeling I speak. I remember the design which won the competition. There was a "crescent" bitten out of the plan as at present, but its center was filled with an important circular structure which served to unify that elevation. That structure does not now appear and evidently there is no provision for it in the future. It looks almost as if some monstrous, unfeeling giant had bitten out a hunk and left the building mutilated in plan and elevation. Originally the curving roof of the crescent finished against important architectural features. Now the unfinished ends of the roof call mutely and sorrowfully to be extended—the arc calls for completion in a great circle—but the call will never be heeded. The huge rusticated corner masses of the pavilions, themselves out of all scale, exist seemingly only to buttress grotesquely gigantic arches above, and interfering with the function of which, the wall has been boldly pierced for light.

How much more charming and gracious would have been John Belcher's carefully studied design, which was placed second, than this—but I realize that I am unfitted by temperament and training to deal with some aspects of the architectural art.

Matters of Varied Interest

The Architects' Journal is giving considerable space to the modern theatre. Many of the playhouses are weird and fantastic in design as in execution. Probably one should not treat the architecture of the theatre as real any more than one should consider what goes on upon the stage as having any relation to real life. What goes on within is all illusion, all hectic, all hollow, all mimicry, so why should the shell present other than these characteristics?

I am not speaking of the literary drama but of play acting and the husk in which it rattles about. I am speaking now from the standpoint of the man of action who goes to the playhouse to escape life. I may present another point of view at some more opportune time.
Architecture in Letters

Architecture is holding its own in literature in Great Britain. F. R. Jelley, A.R.I.B.A., has an interesting paper in The Architects' Journal on Architects in Popular Literature, in which he conceives that architects have been none too pleasingly presented from Pecksniff on: from Dickens down to Wells. Mr. Galworthy, who is included in the indictment, answers in a later number in genial vein, indicating that the characters are treated rather as characters than as architects and that architects should not be more sensitive than lawyers or doctors or others are, or should be, who have had their like held up to the mirror of literary art. That architecture is a subject of general interest in Great Britain—as perhaps in no other country—is evident from the fact that the columns of the great metropolitan and provincial dailies and weeklies are open to real discussions of architectural principles and theory and practice rather than mere news and real estate items. In these discussions architecture is treated as art, as a possible living art, and given a dignified position and treated in its ideal relationships to society.

The Architects' Journal, for example, while lamenting that the topic is ignored by the bulk of the press, says: “To this scandalous and unwarrantable neglect there have been always honorable exceptions. The more dignified and distinguished of the newspapers, both in London and in the country, maintained the tradition that, no matter how apathetic the ‘masses,’ the ‘classes’ liked to see in their chosen periodicals an occasional reference to so refined a subject as architecture. Occasionally it was accorded hospitality in the Reviews, where Sir E. Beckett Denison's diatribes, or Mr. Emmett's sardonically humorous censures, or, finally, Mr. March-Phillips' graceful perversities, were each and all welcomed as leavening the mass. More than any other contemporary writer, Mr. March-Phillips was successful in showing how fascinating a subject architecture can be made in the hands of a skillful writer, and eventually the Morning Post offered him a large audience to which to preach, at regular and frequent intervals, the gospel of good building. He was thus able to convince many readers and a few editors that architecture is a subject that can be invested with singular charm by a capable writer, as Ruskin had proved long before.” My own opinion of March-Phillips is an exalted one.

The London Observer and the Manchester Guardian are mentioned as rendering especial service in this direction; and other papers, a goodly list, come in for thanks for their continued work in the good cause. When will our great dailies open up their columns to sincere and deep discussion of art as affecting social progress and include architecture in the category of beneficent institutions?

The Passing of the Skyscraper

By George C. Nimmons

The most conspicuous contribution of our time to the architecture of the world is the high office building commonly called the skyscraper, the outstanding feature of which is that it seemed at first, to the astonished observers, to scrape the sky. But in their construction it has transpired that those which at first were called skyscrapers lost their claim to this title as soon as other buildings in their vicinity were carried up higher. The first skyscraper was only 11 stories high and the second 12, and now they are 40 stories and more.

Their history reveals a continuous effort to gain distinction by exceeding the height of former buildings. It has been a veritable building race into the sky, but the race is now practically over, and there will hardly be any more entrants, as the privilege to scrape the sky with a building has been recalled. Laws for the restriction of building heights are either already in force or are in the process of being passed in practically all of the large American cities.

The result at the conclusion of this remarkable race gives the Woolworth Building, 790 feet high, first place, and the Metropolitan Life Building of New York, second, at 700 feet.

While some of the laws restricting building heights still permit a portion of the area of a site to be carried up to certain heights, the main mass of the building is limited, on the building lines, to a maximum height of about 2½ times the street width. There appears to be no large city which does not materially cut down the height formerly allowed for such buildings. As a natural result, office buildings will tend toward a uniformity of height in each community, and then no more buildings will astonish the natives by their tremendous height.

No doubt it will be most interesting for future generations to review the rise and fall of the skyscraper in the estimation of our time. It came and was condemned by the people in the period of about one generation. Therefore it seems appropriate and advantageous for us to speculate on the lessons this experience will teach posterity, which probably will not view with much sympathy the motives which led to the erection of these buildings, or some of the effects that followed, although it should not fail to be thankful for the invention of skeleton construction and what we call the modern elevator, which together made these buildings possible. It may be that its attitude will take a humorous turn, as they reflect upon the youthful enthusiasm with which we overindulged in something not for our good.

One of the first things they probably will note will be that we didn't invent the elevator but only applied mechanical power to operate it. Archimedes had a freight elevator in 236 B.C. operated by perfectly good hand power, according to Vitruvius who recorded a description of it in 46 B.C., when he was working for Julius Caesar as a military engineer. This must have led to the invention of the animal elevator which was installed.
THE PASSING OF THE SKYSCRAPER

at the Roman Coliseum for raising the wild animals up to the level of the arena floor.

The passenger elevator would probably be traced 'way back to the sixth century at the Convent of St. Catherine on Mt. Sinai, and then at the Monastery of St. Barlaam in Greece, where one had a travel of two hundred feet. Queen Anne had a passenger elevator at Windsor Castle, and the Empress of Austria, Maria Theresa, in 1780, at the Capuchin Church in Vienna, had one which she used for descending to the family tomb in the crypt. It is reported that this was of the plunger type. At any rate, it stuck in the hatchway, one day,—a not uncommon occurrence even now,—but the Empress, who was very strong for omens, took this as a bad one and assumed it to be the forerunner of her death, which really did occur a short time afterwards.

Beginning at the beginning, posterity will note that as soon as scraping the sky with buildings became an assured thing, real estate men and owners of downtown property conceived a great idea, viz., that the price of the land could go up with the height of the buildings. In the various large cities these soon began to tower above their surrounding neighbors to 12, 14 and 16 stories; people did not hesitate to ride in the elevators to these dizzy heights and tenants proceeded to sign up leases for the available space. It was also observed that there seemed to be a preference, even at first, for the top stories. This tendency had its effect in helping to create a conviction that the higher a building went the better people liked it. Upon consultation with the architect and builder, assurance was also given, particularly after the adoption of the caisson foundation, that there was practically no limit of height to which these buildings might not go.

With these essentials established, owners of downtown corners and the realtors began to visualize and dream. Story piled upon story up into the great heights. And there are many instances where pieces of property are held at prices far beyond what buildings erected upon them could stand. And there are many instances where pieces of property are held at prices far beyond what buildings erected upon them could possibly justify, by reason of the causes of low earnings were discussed and the conclusion reached that the only feasible remedy was to raise the rents. It was recognized that the cost of new office buildings could not be reduced; that was fixed by the market cost of labor and material at the time the buildings were built and a campaign of education, therefore, was recommended to bring about the raising of rentals.

There was no discussion or inquiry as to whether or not the value of the land was too high, or upon what basis its value was arrived at. The fact that the value of the land can only be computed properly from what a building erected upon it can earn, did not receive consideration, nor was any attention given to the fact that land values had been systematically raised as fast, and in some cases faster, than the rise in the height of buildings. It is probable that in every community the experience has been the same, viz., that as soon as the building height was raised over what had been customary in that city, the price of the land was advanced, and as soon as it was found that this was not satisfactory the rental of the buildings was increased.

This kind of boosting process has been going on ever since the skyscraper was invented, but it has now met a very formidable obstacle in the new zoning laws and in the discovery of the fact that office buildings reach the maximum rate of earning at a much lower height than was formerly supposed.

On account of the limitation of the height of buildings, all increase in income in the future will have to come from the increase in rentals, and not as it did in the past by increasing the height of the buildings. Fortunately, it is only a relatively small proportion of city property, as a rule, that has advanced in price beyond what it can readily justify from the earnings of future buildings. The restrictions now placed upon buildings should have, and no doubt will exercise, a wholesome influence in restraining the inflation of the value of property beyond a stable and permanent value.

(While we, no doubt, will be criticized in the future for expanding the prices of real estate holdings beyond a legitimate amount, there is at least one example in this country which stands out conspicuously, and may give evidence of a spark of the poetic and sentimental in our property transactions. This instance, according to the Economist, is the rental of the ground on which stands a little church at Manheim, Pennsylvania. On the first day of June each year the congregation assembles, and each member pays to the owner of the land one red rose. In addition to this the treasury of the congregation gives over five shillings. The church is known as the Red Rose Church.)
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Posterity, no doubt, will note with interest another important feature of the skyscraper's development. When steel skeleton construction was adopted, the then existing theories and precedents of architectural design were all upset. With the old masonry construction there had been no need for anxiety as to whether the pier, lintel, or arch was of sufficient size to give an appearance of adequate strength and stability. The designer of such a building could frankly express the construction in the façade and feel assured that there would be sufficient masonry in its different parts to make the building look stable and secure. But when steel came into use, with a strength so much greater than masonry, the required size of columns was so small that it was not only a very difficult problem to secure good proportions, but it was also difficult to prevent the building from looking dangerous and liable to collapse, by reason of the seeming inadequate size of its different members. Yet it was not long, however, before people adjusted their standards of strength and stability to this new material, and no longer hesitated to walk on the side of the street where one of these buildings stood.

In fact it did not take merchants long to discover wonderful selling possibilities in buildings with skeleton construction. Enter the modern show window,—the intensive display method of modern advertising. The idea of showing the greatest variety in the largest quantity grew in popularity, and architects were asked for the largest show windows it was possible to build.

The common inquiry then became,—how small can the columns supporting the building be made in the lower stories to give all possible room for the show windows? Building owners no longer had any concern about having the supporting columns or piers of a building look strong enough to hold it up; they wanted the space for show windows to put a car load of something in, so that people would see that they had plenty of goods on hand. Show windows increased in size until some bright genius discovered that columns didn't need to appear on the outside at all. The lower story could be all show window by setting the columns back from the building line, and running the glass right along in front of them. In this way the glass could be continuous except for the entrance doors, and even at the street corner the column could be set back and glass made to come right up to the corner. Then the remaining space above and below the show windows could be covered by sign boards, or signs could be painted in red or orange on any remaining surface above or below the glass, thereby getting the full selling power out of the entire store front of the building.

When at first the supporting columns were reduced in size, someone remarked that such buildings looked as if they were supported on tooth picks, but when the columns disappeared altogether from the outside surface it seemed as if some magician or conjuror had surely been at work. The laws of gravity seemed certainly to be suspended! Here we had a great skyscraper with no visible means of support whatever! The floating of the planets in space seemed no greater mystery than this enormous building suspended in the air over a great display of ladies' lingerie, men's clothing, children's toys, patent medicines, surgical appliances, men's underwear, or some other motives. Of architecture, no vestige was left. By craning one's neck skyward one might gain a distorted glimpse of rich cornices and noble orders of architecture too far off to be appreciated. If any of the fine arts have suffered by the inroads of business, surely architecture has had to bear the limit of that imposition in some of the downtown shopping districts.

An architect, therefore, in attempting to design one of these buildings had to assume that his architectural base would be underwear, clothing, or other merchandise suspended in the air, or if fortunate, there might be some wax lady models to resemble caryatides, thereby giving some semblance of support to the theory that architecture, in these buildings, did not commence until the second story was reached.

From an observation of all these queer developments one might suppose that people didn't care anything about architecture. But, quite the contrary, there was quite a lively interest aroused about the difficulties of designing these tall buildings. This soon led to a demand for a new style of architecture, which should frankly express the new kind of construction. In fact there was quite a stir in the architectural profession over it. Two warring factions sprang up. One claimed that "all architecture was rotten that followed precedent in trying to clothe this new kind of structure," while the other so characterized all efforts to follow conventional lines. The slogan of one was "Progress before precedent"; of the other, "Precedent before progress." There seemed to be a strong sentiment among the radicals for a new style of architecture, one that would be distinctly American, and some thought that it should be expressive of the democracy of the government and the freedom of the people.

About this time there arose into prominence an architect whose originality and skill in design surpassed any other of modern times, and that was Mr. Louis H. Sullivan. He did originate a new system of architectural design and ornamentation which had a far greater following than any of the other architects who attempted to break away from the conventional methods. His method of designing the ornamental features of buildings is one which seems specially well adapted for producing the originality of expression in design so much desired. And it was the example of his work during the World's Fair and afterward which called forth such enthusiastic praise, especially from the people of France.

Mr. Sullivan's method of designing ornament is based upon his great knowledge of the habits of the growth of flowers and plants, and of the principles of geometry. Having availed himself of the principles of nature in plant growth and of the rules of science in geometry he was not restricted as is the ordinary designer to copying the methods of conventional architecture, but on the contrary was more or less free, in his creative work, to express himself, his emotions, and his own taste just as the talented craftsmen must have done in the old days when they created the masterpieces of art. Fortunately, in connection with the story of his life now appearing in the JOURNAL, he is completing a series of twenty plates which will reveal his methods of design for posterity.

Anyone, therefore, who will avail himself of these prin-
THE PASSING OF THE SKYSCRAPER

The principal charges made and proven against the skyscraper were, that it was largely responsible for the congestion of traffic in the streets, for the marked increase of the respiratory diseases, such as colds, influenza, and pneumonia, occasioned by the cutting off of sunshine and the interference of ventilation in securing pure air, the increase in the danger of injury and loss of life in times of fire and panic, and the undue raising of the prices of land beyond what was considered stable and reasonable. There are a number of other minor charges made, but most of them result from those given above.

The obvious cure for most of these evils would be, of course, to cut the height of buildings down to a relatively low limit, such as that of Paris or London, but this would bring about very serious results. If the prices and values put upon centrally located property had not mounted up to heights corresponding to the buildings, the matter would not be so serious. But the fact is that the whole economic fabric of society is built up to an important degree upon the current values of city property. Industry, commerce, and business are deeply involved. Investments of a large part of our wealth are tied up in city property. Credit extended by the banks is largely secured by the important pieces of property, and many people are holders of securities which have an interest in city property. If, then, building heights were generally cut down over the country to a point which would materially lower the present earning power of city property, it is almost certain that there would be a panic and that thousands of people would fail.

In deciding, therefore, how much building heights shall be restricted in the zoning laws now being prepared in many of our large cities, the outstanding question in the whole discussion turns upon the problem as to the height at which a building reaches its maximum rate of earning. Is this height fifteen, twenty, or thirty, or more, stories? It is the answer to this question which will aid a city most in determining how much the height of buildings may be restricted without seriously affecting the values of city property.

In serving upon a committee of the Chicago Real Estate Board to study the question of building heights for the new zoning laws of Chicago, the writer made a series of calculations of the earning power of a typical office building from five to thirty stories in height, and the results were published in The Chicago Realtor, the Board's official publication, and are also repeated in the tabulated statement to follow. As a large percentage of Chicago's important office buildings are built in the form of a hollow square, that type of plan was adopted. It was assumed that the site was a corner lot 160' x 172', with streets on two sides, an alley on the third and adjoining property on the fourth. The land value was placed at $1,500,000, the cost of the building sixty cents per cubic foot plus variations for its different heights, and the income at an average of $3.00 per square foot for office space and $5.00 for shop or store space. Taxes, insurance and operating costs were included at the average local rates. Depreciation of the value of the building was not included.

In order to determine the earning power of buildings of different heights erected upon this same lot, calcula-
The Journal of the American Institute of Architects

Tabulated statement showing the comparative earnings of buildings from five to thirty stories on an assumed typical plot.

<table>
<thead>
<tr>
<th>LAND AND CONSTRUCTION COSTS:</th>
<th>5 Stories</th>
<th>10 Stories</th>
<th>15 Stories</th>
<th>20 Stories</th>
<th>25 Stories</th>
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<tr>
<td>Value of Land…………………...</td>
<td>$1,500,000</td>
<td>$1,500,000</td>
<td>$1,500,000</td>
<td>$1,500,000</td>
<td>$1,500,000</td>
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<tr>
<td>Cost of Building………………</td>
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<td>2,054,000</td>
<td>3,000,000</td>
<td>4,000,000</td>
<td>5,935,000</td>
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<tr>
<td>Total Land and Construction Costs</td>
<td>$2,608,000</td>
<td>$3,554,000</td>
<td>$4,500,000</td>
<td>$5,435,000</td>
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<thead>
<tr>
<th>OVERHEAD AND ANNUAL EXPENSE:</th>
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<th></th>
<th></th>
<th></th>
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<tr>
<td>*Interest on Loan @ 5 1/2%</td>
<td>$60,940</td>
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<td>$148,500</td>
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<td>**Interest on 2nd Mortgage @ 7%</td>
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<tr>
<td>Ground Lease, Average Annual Rate</td>
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<td>Taxes @ 3 1/2% (on 65% Land, Con. Cost)</td>
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<td>Insurance @ 2c Sq. Ft. Rental Area</td>
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<tr>
<td>Total Overhead and Annual Expense</td>
<td>$238,875</td>
<td>$366,152</td>
<td>$498,064</td>
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<tr>
<th>INCOME:</th>
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<tr>
<td>Rentable Offices Area @ $3 Sq. Ft.</td>
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<td>$211,132</td>
<td>$260,810</td>
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<tr>
<td>Rentable Store Area @ $5 Sq. Ft.</td>
<td>199,836</td>
<td>198,180</td>
<td>196,020</td>
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<td>Total Income</td>
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<td>$404,830</td>
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<td>Deduct: Overhead and Annual Expense</td>
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<tr>
<td>Annual Net Earnings</td>
<td>$113,605</td>
<td>$212,960</td>
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<table>
<thead>
<tr>
<th>Earnings on Total Investment</th>
<th>4.36%</th>
<th>6.00%</th>
<th>6.82%</th>
<th>7.05%</th>
<th>6.72%</th>
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<tr>
<td>Rentable Area, Square Feet Office</td>
<td>56,535</td>
<td>141,160</td>
<td>225,485</td>
<td>305,430</td>
<td>372,795</td>
<td>426,260</td>
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<td>Stores</td>
<td>44,040</td>
<td>44,040</td>
<td>43,560</td>
<td>45,080</td>
<td>42,600</td>
<td>42,120</td>
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<tr>
<td>Total Rentable Area Square Feet</td>
<td>100,943</td>
<td>185,200</td>
<td>269,045</td>
<td>348,510</td>
<td></td>
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<tr>
<td>Number of Elevators</td>
<td>3</td>
<td>6</td>
<td>10</td>
<td>14</td>
<td>18</td>
<td>22</td>
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Tabulations made for a 10, 15, 20, 25 and 30-story building.

In making these calculations, the cost of the mechanical equipment and the structure of the lower part of the building was increased as the building was carried up higher. Deductions from rentable area of typical floors were also made for the increase in the size of the light court in the upper floors, and for the increase in the number of elevators required. The effect of the different heights was thus applied to the same lot, giving an equitable comparison, which is not the case in a comparison of the earning power of existing buildings of varying heights on different sites. The earning power revealed in these calculations was very surprising in some respects, for the rate of earning on the capital invested reached its maximum at a much lower height than was expected.

The calculations show that the 5-story building earns annually 4.36% on the capital invested, the 10-story 6%, the 15-story 6.82%, the 20-story 7.05%, the 25-story 6.72%, and the 30-story 5.65%. The outstanding feature of these calculations is that the building is shown to reach its maximum rate of earning at about the twentieth story, and that the rate of earning of the 15-story building is only 0.23% lower than the 20-story building. In this connection it should be recalled that the common idea about the earnings of office buildings is that the higher you build the more is earned on the particular piece of property in question. This is quite true in respect to the lump sum, but in the calculations under consideration, the rate of earning on the total money invested begins to decline as soon as the twentieth story of height has been passed. For example, the investment represented by the 20-story building and the land is $5,435,000, and for the 30-story building $7,781,000, but the rate of earning for the 20-story building is 7.05%, and for the 30-story building only 5.65%. This is the vital point in the whole question, viz., that an excessively high building does not, under ordinary conditions, earn as high a percentage on the money invested as one of medium height, and that there is no justification from an economic standpoint to oppose the restriction of building heights to a reasonable limit in the new zoning laws. In fact, the best argument in favor of this policy is that it will be a positive gain for an owner to build two lower buildings in different locations rather than to build one extremely high one. For example, if an owner were to build two 15-story buildings under the same conditions as herein described he would earn 6.82% on the total investment, while if he built one 30-story building he would only make an earning of 5.65%.

Tabulation for 5, 10, 15, 20, 25, and 30 Stories.

Value of Land $1,500,000 $1,500,000 $1,500,000 $1,500,000 $1,500,000 $1,500,000
Cost of Building 1,108,000 2,054,000 3,000,000 4,000,000 5,935,000 5,013,000
Total Land and Construction Costs $2,608,000 $3,554,000 $4,500,000 $5,435,000 $7,435,000 $6,513,000

OVERHEAD AND ANNUAL EXPENSE:

*Interest on Loan @ 5 1/2% $60,940 $112,970 $148,500 $179,355 $219,299 $256,773
**Interest on 2nd Mortgage @ 7% 54,000 54,000 54,000 54,000 54,000 54,000
Ground Lease, Average Annual Rate 59,322 80,854 102,375 125,646 148,171 177,018
Taxes @ 3 1/2% (on 65% Land, Con. Cost) 2,019 3,704 5,381 6,930 8,108 9,568
Insurance @ 2c Sq. Ft. Rental Area 62,584 114,824 166,808 214,608 257,545 290,336
Total Overhead and Annual Expense 238,875 366,152 498,064 625,947 760,317 900,423

INCOME:

Rentable Offices Area @ $3 Sq. Ft. $152,444 $211,132 $260,810 $319,261 $397,240 $498,064
Rentable Store Area @ $5 Sq. Ft. 199,836 198,180 196,020 193,860 191,700 189,540
Total Income $352,280 $379,312 $404,830 $413,121 $499,140 $589,604
Deduct: Overhead and Annual Expense 238,875 366,352 498,064 625,947 760,317 900,423
Annual Net Earnings $113,605 $212,960 $306,766 $387,174 $439,823 $489,181

Earnings on Total Investment:

4.36% 6.00% 6.82% 7.05% 6.72% 5.65%

Rentable Area, Square Feet Office 56,535 141,160 225,485 305,430 372,795 426,260
Stores 44,040 44,040 43,560 45,080 42,600 42,120
Total Rentable Area Square Feet 100,943 185,200 269,045 348,510
Number of Elevators 3 6 10 14 18 22

Based on difference between loan principal and "Cost of Building."
Includes Deduction of 10% to cover vacancies.
THE SUB-DIVISION OF LABOR—II

Therefore it seems evident that the cities of the country are fully justified in restricting the heights of buildings in their zoning laws without incurring any undue depreciation of property values, as these values must, in the last analysis, be governed solely by the earnings of buildings erected upon such property.

In conclusion it seems appropriate at least, on account of the disparaging statements made, in another part of this article, in regard to the appearance of some shop fronts and office building façades, to express appreciation of the admirable way in which the design of the best office buildings has been handled and the artistic and beautiful appearance of some of the store fronts. Some of the show windows, particularly at holiday season, are spectacles of delight, composed as they often are with all the skill of the finest stage setting, and worked out in color and design in a way that greatly enhances the beauty of the articles displayed.

The Sub-Division of Labor—II

By FREDERICK L. ACKERMAN

Union Rules

A recent editorial in the New York World calls attention to a statement of F. H. Alfred, President of the Pere Marquette, concerning union rules which obtain in every roundhouse in the United States. "I know," he says, "that there is not a railroad in the country that could not afford to pay its shop craftsmen ten per cent more were it not for the obnoxious national rules of employment. There are one hundred and eighty-six of these rules, which were drawn up by the representatives of labor during war times, and the end and aim seems to have been the creation of the most jobs that could be made." Mr. Alfred lists, for example, the classes of labor which must be used to replace a broken stay bolt in a locomotive:

1. The cab carpenter and his helper remove the running board.
2. The sheet metal worker and his helper take off the jacket.
3. The pipemen remove the pipe.
4. The machinist and helper remove the running board bracket.
5. The ox-welder and helper burn out the stay bolt.
6. The boiler maker and helper take out the stay bolt.
7. The boiler maker and helper put in the stay bolt.
8. The running board bracket is replaced by the machinist and helper.
9. The running board is fastened on by a cab carpenter and helper.
10. The jacket is replaced by a sheet metal worker and helper.
11. The pipe work is replaced by a pipe fitter and helper.

It is necessary, in addition, that a separate foreman order done the work that is to be performed by each group.

Now the curious thing about this scheme for dividing manual operations is this: If the writer of that editorial in the World had been viewing this division of labor in the Ford factory, for example, he would have characterized it as a marvellous piece of efficiency engineering, so-called, which proceeds by precisely such methods; he might then have asked himself: the difference as between making motor cars under a modern engineer's efficiency program and repairing a locomotive under union rules, is one of what? But no such thoughts intruded upon the writing of the editorial in question, and, in conclusion, the World remarks that "if the unions insist on inefficient methods because they make more work to do, they must obviously sacrifice something in the rate of pay received."

Now an almost identical example of the division of labor under union rules might easily be found in the building industry, but in so referring to such rules as sabotage—a slowing up of production in order to "make work," which is equivalent to obtaining a higher price per unit of productive effort—the World views this matter as it is ordinarily viewed. But in so characterizing such action there follows the obligation to place in the same category action, either by individuals or groups, which, in one way or another, contributes to the production of a smaller volume of goods than is easily possible under the material circumstances attending production.

No more than a casual examination of characteristic action and outlook in the case of those who dispense credit, produce and market the crops, use or sell land, or produce and market materials for clothing and shelter, discloses, as has been repeatedly pointed out, that business cannot be carried on without a most painstaking regard for so limiting production as to insure the maintenance or the advance of prices. It is this undeniable fact with respect to the situation in general which lifts the action of the round-house shopmen, workmen in the building trades and others out of the field of union policy and places it in the field of action characteristic and unavoidable under the working of our price system. The demand that the working rules of the union be voluntarily abandoned in the interest of lower prices to the consumer and lower pay to the workmen should be coupled with the further demand that the producers and the marketers of materials of all sorts go to their work in the interest of lower prices to the consumer and smaller profits to themselves.

That is to say, if workmen should abandon the practice of attempting to regulate the volume of goods which they produced, others should also proceed to the production of the maximum volume possible regardless of what would consequently happen to prices and profits.

It is the demands that the workers shall do certain things in the first case, and the complete lack of any
equivalent demands that the producers and marketers shall do the same things in the second case, which give rise to the present industrial conflict and furnish ground for the idea that here focuses the class struggle. It is out of our two completely divergent attitudes towards one and the same thing which gives to the present industrial situation its character of unavoidable and ceaseless conflict of interests.

Another phase of the matter is deserving of attention. Under guidance of habits of thought which follow upon the development of the machine process an ever more extended and minute division of labor has come to be viewed as the road to efficiency—a larger production of goods for the same expenditure of effort. In fields of production where the machine performs most of the functions it has come about that the ideal state of affairs is that in which the workman performs one operation with one movement only. An appraisal of this condition in industry is not in question here. Reference to it has been made merely for the purpose of pointing out that these obnoxious rules of unions look, on their face, exactly like the formulated principles which have been developed by financial business to guide the managers of our industrial plants. It is probably true, for the time being, that, in case of machine production, a minute subdivision of labor similar to that indicated by the rules referred to above works out in an increased volume of goods produced. It is also probable that these rules, when applied to production which falls largely within the sphere of handicraft operations, operate to retard or restrain the industrial process and increase prices. Thus they are quite properly referred to as sabotage.

But it is hardly to be denied that these rules of the unions are in accord with the aims of producers who seek to carry on production without drawing heavily upon the skill of the workmen. For the aim in industry in general is: how, in the typical case, to reduce the field in which the individual workman functions, so that his interests are confined to the doing of one thing with only one movement. This is not to condone these rules of the unions. It is to point out, however, that in the business of selling time and such skill as the workman may have acquired under the system which seeks to get on without the skillful, these workmen are acting strictly in accord with what have developed to be the principles of business traffic. Not only are the workmen and their unions quite up-to-date in this respect, but as already suggested they are keeping quite abreast of the engineers and the employers with respect to the working out of a more minute sub-division of labor.

Of course, the outcome of these union rules foots up to a very considerable item which may be properly accounted a dead loss. But then, precisely the same may be said of the outcome in the case of those who engaged in production with a view of selling goods for something above cost, for in the latter case the aim is to always so control output as to keep prices up, so that in fairness to all we should not treat these trade union rules and regulations as something arising out of an alien point of view or moving in conformity with an alien economic system.

All these rules are in strict conformity with the rules for controlling output which govern the world of business traffic and without which the world of business traffic could not stand as a going concern over night. When these same rules are viewed from the standpoint of technology it is plainly to be seen that they run in strict conformity with those rules which guide the modern production engineer when he goes to his work. It is, therefore, not at all likely that these rules and practices of the unions will give ground or give way in advance of the decay of business traffic and the falling into disrepute of the ways of the modern production engineer. That is to say, they are likely to stand for some time to come, for they are in conformity rather than alien to the situation as a whole.

(To be continued)

The Question of Public Information

About Architecture

By JOHN V. VAN PELT

Chairman of the Committee on Publications and Public Information

The Committee on Public Information of the Institute has written to all of the Chapters to urge that they take up with their local press, the publication of matter pertaining to architecture.

It is not credible that the American public is so far from an approximation of civilization that it has no interest in this subject. France cares. Italy cares. Are we who look down on these nations from the heights of our serene self-satisfaction, really less cultured than we think? Our periodicals publish whole columns or pages, on the Drama, Music and the Motion Pictures. How has this come about? Unquestionably because these arts are fostered by business organizations and the theatrical, musical and movie publicity man has pushed them to the front.

Architecture has an organization, too, with 51 children localized throughout the country, on whom the mother depends. But while some of these children have been making an effort to support her, unquesionably some of them have been guiltily lethargic and apathetic.
THE QUESTION OF PUBLIC INFORMATION ABOUT ARCHITECTURE

A young member of one of the Eastern Chapters complained to me the other day that no effort had been made by his Chapter to right the wrongs brought to light by the Lockwood investigation in New York City. "Well, why don't you urge this at the Chapter Meetings," I said, "instead of knocking? And then do something yourself." His attitude is the easy one we all like to follow. The omissions and crimes of the architectural profession as a whole are vested in each architect. Each one is responsible for the fact that improper methods obtain, because if each of us put his shoulder to the wheel, the wheel would turn and grind the villainous practise to powder. To go a step farther; if there is lack of publicity for architecture in the United States, it is because architects as a whole pay no attention, give no time to the presentation to the public of the interesting points of this vital art, an art which is an integral part of the life of the people.

By and large, the real estate man, as a by-product of lining his pockets, does one hundred times as much for architecture as does the architect who claims to have inherited the sacred fire.

The Committee on Public Information of the Institute proposes to take space in the JOURNAL discussing these matters with the members, and it wishes as a first step to ask each member to communicate with it and to send in suggestions to the Chairman concerning new ways in which it may operate.

It has considered whether it may be possible and advisable to institute a general news distribution service. Obviously the almost insurmountable difficulty is that of financing such a service, and it is a serious question whether this can be undertaken at the present time. Furthermore, while news and articles of a certain class are of countrywide interest, the great mass of architectural news is of a decidedly local cast. This is where the Committees on Public Information of the Chapters must shoulder the burden and at the present writing it would appear that some chapters have not even appointed a Committee on Public Information. If that is the case in any Chapter, each member of that Chapter is guilty, for all that he has to do is to attend its next meeting and make the proper motion.

It will be suggestive here to outline means adopted by some of the Chapters to obtain publicity for architectural subjects and to come in contact with the readers of the papers. This committee has asked all of the Chapters to report to it, but has only received replies from a limited number. It may well be that activities of the greatest interest are being carried on in certain localities from which we have not heard. Such localities must not take it amiss that no mention is made of their work. Unquestionably reports of this kind will be valuable to the efforts of all the Chapters and your general committee here makes an urgent appeal to each Chapter to send a report to the Chairman in New York by the fifth of each month. We believe that if it accomplishes nothing other than to act as a clearing house for the Chapter Information Committees, the Institute Committee will have performed a real service.

The Baltimore Chapter, through the instrumentality of Mr. John H. Scarff, obtained the publication of some very valuable articles on Architecture in the Morning and Evening Sun of Baltimore. One of these was by the late Professor Howard Crosby Butler, another by Stephan Ivoir Richelbourg, partially reprinted from the JOURNAL, and four or five by Mr. Scarff himself.

The Central Illinois Chapter has taken up with the editor of the National Geographic Magazine some rather flagrant omissions of the Architects' names when it has shown illustrations of buildings.

The Central New York Chapter issues a very interesting bulletin that gives news of Chapter matters and also attacks problems of architectural import.

The Cleveland Chapter sponsored in the Sunday papers two series of sketches of twelve house designs each. The first conducted by Mr. Schneider consisted of houses costing from $2,000 to $2,500 with accompanying articles, and was eminently successful. The second for houses not to exceed 700 square feet was conducted by Mr. Sabin, secretary of the Chapter, whose modesty doubtless conceals a similar success. The newspapers published exactly what was supplied to them. Twenty to fifty inquiries from persons hoping to purchase stock plans followed the publication of each design. This does not in any way gauge the benefit to the profession and to the public derived from such an educational campaign. Mr. Sabin tried sending advance reports of the Chapter meetings to the Cleveland newspapers last year, but the resulting notices were not very full, and in many instances no notice appeared. Evidently the editors did not consider this news of general interest. The Cleveland Chapter has tried both speakers and stunts to give interest to the Chapter meetings and finds the latter more effective.

The Chicago Chapter is working with the Chicago Tribune which it finds interested in the idea of developing the presentation of architectural news to the public. The Chicago Chapter has the practice of inviting able out-of-town architects to speak at its meetings, and finds this successful in arousing the interest of the members.

The Colorado Chapter has been devoted to the issuance of a very full and interesting monthly bulletin which is distributed to all the architects of Colorado and to the leading publications of the State. The mailing list comprises 110 names at the present time. The efforts of the Chapter, through the press, are being devoted toward the development of the Mountain Division of the Small House Service Bureau, and large page illustrations are being run by the press showing plans, elevations and site beautification, together with interesting articles on each design. The Chapter is represented on the Denver Municipal Planning Commission, the Colorado Engineering Council and like organizations.

The Kansas Chapter is taking up the publication of architectural news with two of the local papers, and is meeting with success. The Chapter is a new one and is showing some of the older Chapters the path they should tread. All the members of the Chapter are members of the Kansas Society of Architects, so the annual meetings are held in conjunction, to the profit of each.
The Michigan Chapter is arranging with one of the Detroit papers to make a more interesting real estate and building page, and to train its members to furnish architectural matter that will appeal to the papers as news. They had talks at meetings last year from Harvey W. Corbett and Leon V. Solon, and are planning some special evenings with experts to perfect themselves so that they may cope with the problems offered by imminent revisions of the Building and State Housing Codes.

The Nebraska Chapter is working to develop the architectural news output of the Omaha papers and has found the Lincoln papers very responsive.

The New York City Chapter was approached when it began the year's work, by the Eastern Films Corporation, who desired to enlist its help in the production of architectural, educational films. After a thorough study of the matter, its Committee agreed to edit such films and the Eastern Films Corporation agreed to turn over the films to the Committee after the preliminary use had been made of them. This activity was subsequently vested in a corporation which further engaged in an activity in which the Committee is interested, namely the production of a series of moving pictures of different kinds of building construction to be used in the course of the Architectural schools of America. The Committee brought to the attention of the Chapter the difficulties that exist in the settlement of disputes and vexed questions between architects and members of the building trades. As a result the Building Trades Employers' Association was approached, and eventually a joint committee appointed, to which questions of policy affecting architects and builders or matters of dissension between an individual architect and a builder may be referred. The Committee formed two groups, or sub-committees, the first to study plans looking toward the betterment of certain squares and parks in New York and the creation of a series of fountains, and the second to make an effort to bring about greater recognition of the architectural profession by the periodicals and newspapers of the architectural profession and of the city. A number of meetings were held, at which well-known architects, city planners and landscape architects gave valuable criticism.

A perspective of City Hall Park has been begun, and although the work has not yet been completed, it is expected that it will be finished this fall, and that an exhibition will be held. Meanwhile a considerable amount of publicity has been given to the activity, and sketches of some of the fountains and parks have been featured in the Sunday papers, notably the New York Times and the New York World. The Committee has also brought different matters to the attention of the newspapers and has contributed in this way to the movement for the preservation of the William K. Vanderbilt house, of which Richard M. Hunt was the architect, and to the inauguration of the Atlantic Division of the Architects' Small House Bureau. The Committee has also been in touch with the movement with which the Russell Sage Foundation is associated for a plan for Greater New York and its environs. It has met with a special Committee appointed to consider the matter of City Hall Park and is proceeding with their approval and in touch with Mr. Frederick P. Keppel, who is in charge of these activities for the Russell Sage Foundation. The Committee has interested itself in a number of matters of broad import to the architectural profession and to the City of New York, such as the proposed bridge connecting Manhattan Island with New Jersey as proposed by Gustav Lindenthal, the activities of the New York Building Trades' Congress on the education of apprentices and seasonal employment. It has distributed some of the circulars of the Committee on Education of Apprentices. The Committee has also interested itself in the proposal of the establishment of a City Architect, and, finally, has issued a bulletin to the Chapter members. Five of these were sent out during the year.

The Philadelphia Chapter has always been an efficient one. Mr. H. Bartol Register, Secretary of its Committee on Public Information writes as follows: "We have found through experience that we can gain more impression by selecting one or two important subjects and trying to push them through articles in the press and individual effort. Last year we were especially interested in zoning for Philadelphia and carried on a newspaper campaign. Personally, I do not feel that this type of propaganda touches the public very much. The whole problem of trying to communicate our ideas of broad import, must be done through personal contact. It is possible that a great deal can be accomplished through association with the many business and lunch clubs, Chambers of Commerce, etc., where the architect could make himself known and speak on matters where we feel we are the leaders. However, as you know, it is very difficult to get architects to do this sort of thing. We expect this winter's campaign to be conducted along these lines—through press publications and furthering more personal contact between Architect and public."

The Pittsburgh Chapter, through its President, Mr. Edward B. Lee, sends us the following: "The Pittsburgh Architectural Club publish a monthly small paper called 'The Charette.' This is circulated to all the architects and also to all recognized leaders and friends of architectural art and public betterment in Pittsburgh and the territory of the Pittsburgh Chapter. A great deal of our publicity effort is consumed in this sheet, all of whose staff are also Institute men. We are planning on taking up with the Pittsburgh Gazette-Times, beginning at first with the Sunday issue, a column on current architecture. We have approached the publishers and are awaiting advice. Our men were favorably received, but frankly the publishers are skeptical that we could produce the readable copy. The publishers are putting their finger on our weak spot. I can frankly and confidentially say I do not know for sure on whom I could depend to produce regularly the required copy, but I am endeavoring to get my plans perfected. We have organized a group of an architect (myself), a landscape architect, a sculptor, a builder and a painter, which, regularly during the winter season, will give short talks on the KDKA Westinghouse Radio. Each is preparing ten to fifteen minutes' talk of popular character on his profession. They will be grouped under the Chapter direction."
The Secretary's Page

Awards to Owners: With regard to awards to owners for good buildings the attention of the Chapters is called to the following resolution adopted by the Fifty-fifth Convention:

"Whereas, the objects of the American Institute of Architects are to promote the aesthetic and practical efficiency of the profession, and

"Whereas, these objects are greatly furthered by arousing public interest in artistic design and economical planning, and

"Whereas, it has been found that by the award of recognitions or merit to owners and builders such an interest has been stimulated, therefore be it

"Resolved, that the American Institute of Architects in Fifty-fifth Convention assembled does approve of the issuance of such awards by or under the direction of the various Chapters within their respective territories."

Non-Resident Dues: At a recent meeting of the Executive Committee it was directed that the Institute dues of a member travelling abroad be remitted. In the discussion it developed that some of the Chapters have no provision in their By-laws for such a contingency; and that in other Chapters members in parts of the state distant from the city in which chapter meetings are customarily held are required to pay full dues.

The Executive Committee recommends to these Chapters that at the next favorable opportunity amendments be made to Chapter By-laws which will relieve the absent member, or the non-resident member, in whole or in part, of the payment of Chapter dues.

365
THE FOLLOWING cablegram has been sent to the International Engineering Congress now being held in Rio de Janeiro: AMERICAN INSTITUTE ARCHITECTS EXTENDS INTERNATIONAL CONGRESS ENGINEERS MOST CORDIAL GREETINGS, BEST WISHES SUCCESSFUL MEETING.

S. F. Voorhees has accepted the Chairmanship of the Committee on Structural Service, vice Sullivan W. Jones who has now become Technical Director, with Mr. LeRoy E. Kern as assistant.

JURISDICTIONAL AWARDS: President Faville has addressed the following letter and questionnaire to the President of every Chapter:

DEAR SIR:
The Convention in June discussed the question of Jurisdictional disputes and the relation of the Institute to the National Board for Jurisdictional Awards. The Convention resolved that the question of the relationship of the Institute to the National Board be referred to the Board of Directors to restudy with a view to revising it in the light of the present labor conditions. The Board desires to give this matter fullest possible consideration at its meeting in December. In order to do so a fuller expression of Chapter sentiment in regard to the matter is desirable so that in the discussion, the opinions of all the Chapters will be known to the Board.

To this end, therefore, I request that the Executive Committee of your Chapter send to me at the Octagon at its early convenience, and in any event not later than November 1, answers to the specific questions attached hereto, and any other comments in regard to Chapter opinion that may be of value to the Board.

I will very much appreciate a prompt reply so that the data may be distributed to the members of the Board for consideration in advance of the meeting.

Questionnaire

(1) To what extent did Jurisdictional strikes interfere with and increase the cost of construction work in your locality prior to the inauguration of the National Board, in 1919?
(2) Has there been any marked improvement in the situation regarding Jurisdictional strikes in your territory since the inauguration of the Board?
(3) Is work in your territory, generally speaking, done under an agreement with union labor, or is it done under conditions of so-called open shop, American plan, or other similar conditions which do not officially recognize union labor as such?
(4) Is it clearly understood by the members of your Executive Committee that the rulings of the National Board apply only where building work is carried on under agreements with union labor as such, and that it does not apply in localities where work is done under the so-called open shop, American plan, or other method which does not officially recognize union labor as such, and that Institute members may properly disregard such rulings in these localities?
(5) Is it clearly understood that the organization and existence of the Board depend wholly upon the inclusion of a mandatory clause, as the labor representatives stated that unless the plan involved powers of discipline by all bodies connected with it, they would have no control whatever over their own membership, and the efforts would be a waste of time, and without any chance of accomplishing the desired results?
(6) Having in mind the fact that the forces of labor admit themselves, and have been proved to be incapable of eliminating Jurisdictional disputes by themselves, is it, in the opinion of the Executive Committee of your Chapter, desirable that other elements of the Industry should co-operate to remove the delays and expense to the industry caused by Jurisdictional disputes?
(7) If your answer to the previous question is in the affirmative, do you approve of the Institute co-operating as heretofore for this purpose in the work of the National Board for Jurisdictional Awards?
(8) If your answer to the previous question is in the negative, please append a full statement of such procedure as you believe the Institute should advocate.
(9) What is the sentiment in your Chapter regarding:
   (a) The method created for that purpose in the shape of the Board of Awards?
   (b) The efforts of the Board in attempting to solve the problem?

GOVERNMENTAL CONTRACT FORMS: The Budget Bureau of the Government has called upon the Institute for help in developing a satisfactory governmental contract procedure. The aim is to standardize and modernize the various forms of government contracts now in use and to eliminate therefrom all inequitable provisions. All Chapters have been asked to send the comments of their members direct to the Budget Bureau.

COMMUNITY PLANNING AND HOUSING

A Plan for Greater Hamburg

CLARENCE S. STEIN, Associate Editor

That the future planning of the Greater New York district has a parallel in the planning problems of Greater Hamburg is indicated by a series of articles in a recent issue of Die Volkswohnung. The organized growth of Hamburg, a free state within the German Federation, is hampered by its political boundaries. Just as a logical and practical plan of New York will have to extend over territory of the States of New York and New Jersey, so the planning for Greater Hamburg must extend far beyond the present city limits into the Prussian provinces of Hanover and of Holstein. Prussia seems, however, little inclined to meet Hamburg's claims for territorial extension, and Hamburg will probably be compelled to co-operate with Prussia in establishing and in carrying out its plans.

From still another viewpoint the problems of Hamburg and of New York may well be compared in spite of Hamburg's smaller population and size. In both instances great harbor extensions will be planned, probably assuming in Hamburg a magnitude comparable with that of the New York plan. Hamburg, before the war,
Relation of New Housing to the Docks of Hamburg and Other Ports

This shows the tendency, apparent in most growing European cities, to give primary emphasis in planning to the location of homes. While in Rotterdam, Bremen and Antwerp the harbor workers live near the docks, in Hamburg they live as far away as an hour's travel.

had become one of the greatest harbors of the world in volume of tonnage.

Professor F. Schumacher, the well-known architect, has this special aspect of Hamburg's future in mind when he points out the fact that city planning of the past has failed largely because it has been more concerned with skillful handling of technical problems than with the solution of social ones, such as land and housing policies. He says, "It is incumbent upon the city planner to emphasize these connections, formerly either not noticed or ignored, because troublesome. The harbor problem cannot be separated from the housing problem."

Evidently Hamburg, like almost all great cities, needs decentralization, needs to pass from the state of compact agglomeration to that of the extensive "urban district," primarily so planned as to insure improved housing conditions to the great mass of the population. This idea underlies the reasoning of the contributors of Die Volkswohnung, who insist upon the paramount importance of providing better housing as the keystone of urban development.

NILS HAMMARSTRAND.

From Our Book Shelf

On the Visual Arts

Somewhere beyond the daily pathway of logic lie the pursuits of the imagination. Here is syllogism and consistency, and there, beyond the pattern, a world of living joys. And throughout the ages of art men have been seeking for intellectual rules of beauty.

We come to "The Things Which Are Seen," by A. Trystan Edwards, M.A., Oxford. Here is an abstract treatise conceived in propriety and reason and being; as the author puts it, "A Revaluation of the Visual Arts."

He has adopted "a manner which is simple and grave," as when thinking outweighs graceful attempts at phrasing. He invokes morality. "Beauty is Nature's touchstone by which the attainment of virtue can be recognized." "Ugliness is always ignoble unless is walks in sackcloth and ashes."

THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

We find man spoken of in terms of men; the salutation is not to the scholar but frankly to the “average man.” With such preliminaries we come promptly to the theme. If the reviewer may assume here the rôle of tourist guide he will halt the aesthetic traveller and warn the weak-hearted, for the party is now to climb to great altitudes.

In a word, the mountain has been turned upside-down. If you found the discussion arresting when you read that it is the “purpose of art . . . to enable spirit to declare itself in terms of matter” and if you found yourself in sympathy with the author’s broad idea of society, you shall now come to a hard climb of thought as the author, by intellectual means, arranges the arts into a “social hierarchy” in harmony with their human significance. The old school of aesthetics, he thinks, has come to its zero hour. Henceforth, the foremost of the arts shall be the cultivation of human beauty, and then in turn, manners, dress, architecture, and painting and sculpture. To these are sub-added literature and music considered for visual appeal. There it is, react as you will. You may be an architect who loves paintings or a painter who reveres music or a plain human being who prefers automobiles, but you may not escape the persistent vigor with which this is presented. Agree or not; remember that nothing less than a new era is warranted. If buildings shall not be explanatory of what we are at sea. If kitchens are to be veneered outside with classic pilasters it were better at once to dismiss this logic as fallacious and yet it is but a minor point. There is much of interest to the architect who reads here with humility. This sentence reveals the social faith, “A noble street that is created at the bidding of a democracy is of profounder significance than a whole city laid out by a tyrant, for the former indicates the attainment of a high level of general culture.” We may approve and yet feel inclined to reject the use that is made of the words “good” and “bad” for “sightly” and “ugly.”

At the beginning of a chapter devoted to painting and sculpture we shall find these two, as slaves to the foregoing arts, bound together like the Siamese twins and classed as “only” reflections of the reality that is expressed by the four major arts. This is annoying. Throwing, with an advers, the challenge to Plato, the essayist now adopts an “obvious” course and, in a manner reminiscent of Godiva, rides boldly through the market-place of imitative art clad only in his intellect. He is to free his average man of the unjust toll of creative instinct. At this point a blindness falls upon the “peeping Tom” who was raised in the old school and he retires to obscurity to dream of an earlier world where painting could be glad or sorry, inspired or desperate.

And again the argument grasps up literature and music and throws them with their fellows into this rose jar of logic whence we shall inhale the dry sweet scent of things that once were alive but now, under the press of intellect, are saved only for their perfume.

The mountain climbed, the theme developed, the second and third sections of the book are devoted to application. The Canon of Form includes a Grammar of Design similar to other formalisms but true to its inherent quality. The resultant quality would be annoyed by such an opinion, or inspired, or only amused? In such a world at least the strong mind, once said to be necessary qualities in midshipmen, could not exist.

Consider the second of the new arts, that of manners. There are street manners and table manners; each is considered in its details. There is an excellent appeal for better conditions of employment for manual laborers, “good breeding . . . reduces every physical operation to its proper status.” The argument concerning the Discobolus as an athlete of good-breeding would be spoiled by repetition and should be read. The discussion of man as a biped uses the terms intellectual and spiritual interchangeably. Statements are directed to visual appearances and folks and things are taken generally full-face or front elevation. “Some of the victims,” we read, “of the industrial system, to those who have eyes to see, present a sorry spectacle.” If Ruskin, the young critic of art, were superimposed upon the mature Ruskin sociologist, the resultant quality would resemble this.

Now comes the theory of dress as an accompaniment of beautiful human form. We read of “propriety” where before we read of the “wrong” kind of visual appeal. Grecian draperies are discussed, and the “smart” shades of dresses, and scarves, trousers, ties and bright hat ribbons. From all this pedagogy of propriety the reader played hookey to where a window opened to the rising fields of Maryland with mountains afar, good corn waving in the breeze, with tree masses and late summer flowers, and a barn full of ripe wheat. But inevitably, for the good pages of our author lay open, the truant eye with sorry excuses found its way back to the next man’s mediums of aesthetic expression, namely, architecture. Here “man’s object . . . is to satisfy the elementary needs of men and women.” It is not difficult to subscribe to this nor to most of the subsequent findings concerning the fine art of building. There comes a long outline of sightliness and then the good old principle of “truthfulness” is attacked, rather unwarrantably. If buildings shall not be explanatory of what we are at sea. If kitchens are to be veneered outside with classic pilasters it were better at once to dismiss this logic as fallacious and yet it is but a minor point. There is much of interest to the architect who reads here with humility. This sentence reveals the social faith, “A noble street that is created at the bidding of a democracy is of profounder significance than a whole city laid out by a tyrant, for the former indicates the attainment of a high level of general culture.”
final social unity of average man and artist. The pre-
cepts stated are applied to the relations between the
artist and the statesman, engineer, mathematician,
psychologist, biologist, historian, moralist, and meta-
physician. It is vastly interesting to see the abstract
and scholarly presentation and the consistent application
of logical thinking to actual problems. Read, for
instance, of the relations of architect and engineer and
you will admire although you may differ to the death in
the matter of Gothic arches.

And finally, with the journey done, the worthy travel-
er may take his rest. Go over it again tomorrow if
you like in detail by yourself. You know the way and
may pursue it in any direction; at one end lies the
country of the Anglo-Saxon reformers, at the other the
Socratic “Know Thyself.”

DELAS H. SMITH.

LETTERS TO THE EDITOR

Letters to the Editor

Fugitive Advertising Again

To THE EDITOR OF THE JOURNAL:

Sir: Mr. J. Monroe Hewlett’s letter in your issue of Sep-
tember, in reply to my letter in your August issue, after
the elimination of the personal abuse in which he indulges, can
be described as evidencing a misunderstanding, a lack of
sense of humor, and a failure to read my letter calmly.

I say that Mr. Hewlett’s letter shows a misunderstanding
on his part. He writes: “Stripped of innuendo, his grievance
against the organizations named by him is that the prestige
and influence of the architectural profession is employed to
divert a certain amount of advertising from professional
advertising channels into publications directly supervised
and controlled by the artistic professions themselves.”

Let me inform Mr. Hewlett that the Association of Na-
tional Advertisers, Inc., is an organization of manufacturers
—of firms that spend the money for the advertising space
from the sale of which the existence of publications, in-
cluding those of the architectural societies, is to a large
degree made possible.

Neither the member companies nor the officers of the
Association operate in what Mr. Hewlett calls “professional
advertising channels.” They are the buyers, not the sellers
of advertising space, material and service. Mr. Hewlett
should have made some inquiries before he confused mem-
bers of the A. N. A. with advertising agents and other
professional or semi-professional men.

It is a pleasure to find myself in a position heartily to
agree with Mr. Hewlett that “two curses of architectural
practice today are the uninformed salesman and the deluge
of unreliable reading matter issued under the auspices of
commercial agencies.” Mr. Hewlett will readily appreciate
that I would be reticent as to such agreement with him
were I on the side of the fence he wrongly supposes me
to be.

Mr. Hewlett—also Mr. Greenley—shows a lack of a sense
of humor in supposing that I confused the Architectural
League with such bodies as the Plumbers’ Social Club of
New York, the Indiana Ice Dealers’ Association, etc. etc.
Both gentlemen were probably led into this error by their
own anxiety to defend the good name of the Architectural
League, which was not attacked, and which will certainly
never be attacked by myself. The League is all that
Messrs. Hewlett and Greenley say it is, and its educational
work is admirable.

Let me try to re-state the point that I evidently failed

to get across to both these gentlemen: There come into
the general offices of our manufacturer-members letters
soliciting advertising orders for, say, the Plumbers’ Social
Club of New York Circular, the Indiana Ice Dealers’ Asso-
ciation Annual Picnic Program, or the publications of the
Architectural League. Our manufacturers know from ex-
perience that the value of all these publications as mediums
for advertising is either nil or extremely dubious.

One of these manufacturers may, however, consent to
spending money in the Indiana Ice Dealers’ Association
Yearbook, bulletin, etc. As advertising media, their value is
either nil or exceedingly dubious. Why, then, does the manu-
facturer spend his money in them at all? (Mr. Greenley,
in effect, asks that very question.) Because a refusal may
disgruntle the architect who has urged the use of these
catalogues, yearbooks, bulletins, etc., upon the manufacturer.

Perhaps, now, Messrs. Hewlett and Greenley will ap-
preciate why the manufacturer puts architectural catalogues,
yearbooks, and bulletins, etc., and the circulars and pro-
grams of plumbers’ social clubs and ice dealers’ associa-
tions into the same category, and why the manufacturer
so frequently exclaims, at the same time that he authorizes
the advertising order, “This is just a damned hold-up!
But what can we do about it?”

To all intents and purposes, President Greenley supports
my contention that the architectural publications under dis-
cussion have little or no advertising value for the manu-
facturer? He says that “We should be delighted to eliminate
advertising and make our contribution toward the general
artistic education of the country by means of our exhibits,
lectures and other propaganda,” and “if it were possible,
to translate the attitude of a very large group of architects,
painters, sculptors, and craftsmen into practical actuality,
that is, all at our own expense.”

Mr. Greenley goes on to say that until there is govern-
ment interest and subsidy in promotion of the arts, getting
the manufacturer to pay this expense must go on, in the
assumption that “one sacrifice is offset by the other;” the
other “sacrifice” being that of the art enthusiast who has
to touch the dirty money at all, and pay his way arm in
arm with business. Yet again, Mr. Greenley says that,
unless the manufacturer, in advertising in publications he
would prefer to stay out of, defrays the costs, the various
architectural exhibitions would have to be discontinued. Is
the architectural profession, then, so reluctant to contribute
its own money? And are manufacturers so uninformed of the
important work of these architectural societies that money
to pay for the exhibitions, etc., has to be obtained on a
basis of fictitious or doubtful value rather than as a straight
contribution?

The carrying of advertising matter by architectural year-
books, catalogues, bulletins, etc., goes on, not on a basis
of value to the manufacturer, but “because we need the
money.” I refer you to President Howard Greenley’s letter
for confirmation.

Yours very truly,

JOHN SULLIVAN,
Secretary-Treasurer.
News Notes

William D. Foster and Harold W. Vassar have opened an office at 132 Madison Avenue, New York City.

Charles A. Die man is now associated with the new firm of Gardner-Parry-Die man, 313 Engineers Bldg., Denver, Colo.

Prof. A. F. D. Hamlin, F.A.I.A., School of Architecture, Columbia University, will deliver next year in Paris a course of sixteen lectures on American Art in the Ecole du Louvre, and a shorter but similar course in the School of Higher Social Studies. These lectures are a gift from Prof. Hamlin, and Columbia is granting him six months' leave for the purpose of delivering them.

The Philadelphia Chapter is figuring very prominently in the construction program for the proposed Sesqui-Centennial Exposition. Through the influence of the Chapter, Mr. Paul Cret has been named architect-in-chief, with the assistance of Mr. M. B. Medary, Jr., and Mr. George Howe; a separate committee, composed of Messrs. Klauder, Lovatt, Sinkler and Rankin, was also named by the Exposition Directors as the Advisory Committee on architecture.

Restoration of the Fine Arts Building in Jackson Park, Chicago, where was held the memorable dinner of the last convention, has proceeded to a point where some $7,000 is now available for undertaking such work on the east wing as will serve to show the feasibility of the whole project and convince the public of the wisdom of carrying through the whole restoration. Some accounts of the proposal have appeared in various issues of the Journal. It is interesting to know that the initial sum has been made available by the activity of the Illinois Federation of Women's Clubs, which has placed the money at the disposal of the Municipal Art Committee of the Illinois Chapter.

The money required for the memorial to Joan of Arc, to be erected at Winchester Cathedral, has now been subscribed, and the work has accordingly been put in hand. The memorial is to take the form of a canopied statue, clad in armor, and the total cost will not exceed £500.

Many of the contributions have come from well-wishers in New York, where, it may be recalled, an equestrian statue of the "Maid of France" has already been erected. One of the side chapels in Westminster Cathedral has been consecrated to her memory. It is hoped that the unveiling ceremony may take place in the early weeks of next year.

To obtain for the small community a hospital building both "efficient in arrangement and creditable in architecture," The Modern Hospital has announced a prize competition, open to all architects. The Illinois Chapter of the Institute, to which the program of the competition was submitted, has approved it. Richard E. Schmidt of the firm of Richard E. Schmidt, Garden & Martin of Chicago, is the architectural adviser. Prizes amounting to $1,000 are to be given to successful contestants. Registration for the contest must be made by November 15, 1922. The program may be had from the Chicago office of The Modern Hospital.

Writing from France, Mr. W. Marbury Somervell, a member of the Institute who has long been associated with post-war work in France, has the following to say, in the Monthly Bulletin of the Washington State Society: "No matter how good the French School may be, it is certain that the architecture of France has reached the lowest stage in its history. I never in my life imagined anything so atrocious as the work now being done, both in public and in private. The useless ornament, the meaningless mouldings accomplished at great cost, the texture of walls, the brickwork and all the rest of the bag of tricks are disheartening. Why, Seattle has in the last ten years produced more good design than all of France in a like period. They do excel in workmanship, and when you have said that, you have said all that there is to be said of modern French architecture. The devastated district is the most disheartening of all the areas of France, in the design of new work, and if Rheims is a fright, Verdun is no better."

"Plenty of liberty, but bad architecture," seems to sum up the impressions of London's latest critic from the United States, says the Westminster Gazette. "Mr. Mencken, the critic in question, hates Prohibition, and that is no doubt the reason why he praises our freedom. He doubtless despises our many chimneys and 'Gothic garages,' as he calls them, because he has been accustomed to skyscrapers with more stories than chimneys in New York. He would hang all London architects as an artistic international amenity—and the architects have now to retort what they would do with all the hit-and-miss critics who come from America. Whatever may be the fault of London's buildings, past or present, they make an architectural assemblage more romantic than is to be found even in Paris—where Richard Jefferies objected to the straight lines on the boulevards—and more varied than is to be found in big-block New York. Mr. Mencken may not know that the new London is being built upon the solid front principle of New York, especially in the region of the Kingsway. This may be the very reason why he finds fault with our architects. He thinks the new L. C. C. H. all 'big and American,' and does not like the color of the roof. It will be soon enough to get a settled view of the new County Hall when it is seen in its finished aspect, and when the weather has mellowed its rawness. Rawness is just as excæparing in a building as in a critic."

Obituary

Dudley McGrath
Elected to the Institute in 1908
Died at New York City, 1 October, 1922
(Further notice later.)
**Rushing Waters!**

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Abstracts

It is the purpose of the Structural Service Committee and the Journal jointly to give, in this division each month, brief abstracts of all publications by the Government Departments and Bureaus of the United States, University and other research laboratories, States and Associations, which contain fresh information in regard to materials or methods employed in construction and thus accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.

Shingle Stain. (25b12)—(Technical Paper 268, Bureau of Mines.) A stain suitable for use on new structures where it is desirable to retain the new look of the shingles is commonly composed of either "straight" creosote oil or mixtures of creosote oil and varying amounts of linseed oil. Occasionally resins are also added. On account of the difference in price, the tendency is to use considerably more creosote than linseed oil. A large percentage of light volatile oil, or an oil containing appreciable amounts of naphthalene, should not be used. Stains are often ruined by the painter's desire to make them flow more easily from the brush, for which purpose he adds kerosene. The writer has tested a number of stains now on the market that are composed chiefly of light mineral oil and creosote with drier and linseed oil. While the mineral oil may help to prevent solidifying of the pigment at the bottom of the container, it has not the germicidal or wood-preserving properties of creosote.

One large oil company interested in selling petroleum products suggests the following formula for a shingle stain.

<table>
<thead>
<tr>
<th>Gallons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light neutral oil, sp. gr. O. 857</td>
</tr>
<tr>
<td>Turpentine substitute, mineral naphtha</td>
</tr>
<tr>
<td>Boiled linseed oil</td>
</tr>
<tr>
<td>Coal-tar creosote, extra heavy</td>
</tr>
<tr>
<td>Good liquid drier</td>
</tr>
</tbody>
</table>

Total 9½

Color pigment, ground in oil, 1 to 2 pounds per gallon of stain.

In the writer's opinion this stain would be improved by substituting for the mineral naphtha, crude coal-tar naphtha or some of the first portion of the light oil distilling from tar. The preserving effect on the shingles is usually not given as much consideration as permanency of color; hence the selection of the best stain for a particular purpose will depend on the preference of the user.

Tarred Felt. (12a2)—(Technical Paper 268, Bureau of Mines.) In the manufacture of tarred felt special felt paper is treated with hot tar, and the excess of tar removed by passing the felt roller. From the rollers the felt is run on a spindle and made up into rolls containing 250 or 500 square feet. The rolls are then wrapped in paper and are ready for the market. It is often necessary to "age" and "turn" the finished product before marketing; that is, the paper rolls are stood on end and are turned, end for end, every few days for two or three weeks, in order to keep the paper at one end of a roll from becoming "soggy." Aging and turning are necessary because the paper sometimes has more tar on it than it can absorb at once. The use of heavy, cold tar also aggravates the tendency of the paper to become soggy. Tar paper should always be stood on end when stored.

The temperature, water content, and consistency of the tar used are of considerable importance in the manufacture of a good roofing felt. While the paper is being treated with tar it is under considerable tension, because the force required to unroll it, draw it through the tar, and roll it, is exerted at one end. If the tar contains water this is absorbed by the paper, which can not now withstand the stress and breaks or tears at the surface of the tar; consequently the tar must be free from water. Even if the paper did not break under these conditions, it is desirable that the tar should be freed of water before the felt is saturated, as the presence of water causes uneven saturation and impairs the waterproofness of the product. In order to insure a high saturation, the tar should be hot enough to reduce its viscosity and give it the consistence of a thin sirup. The limiting temperatures for the best results are 200 degrees and 260 degrees F.

The tar used for this purpose is sometimes prepared by distillation to a pitch and "cutting back" the pitch so obtained with creosote, or with creosote and light oil, and is called "prepared tar." It is preferable, as a rule, to use "straight" dehydrated tar, thinned, when necessary, with light oil or creosote that has been cooled and freed from naphthalene. When the natural tar is so high in naphthalene that the desired saturation cannot be obtained without the naphthalene causing the layers of tarred felt in a roll to stick together, the "prepared tar" is preferable. Usually naphthalene is not present in such proportions, particularly not in "straight" coal tar.

Felt absorbs from 100 to 200 per cent of its weight of tar. When it is over-saturated, or when the excess of tar has not been removed by the rollers, the sticking of the convolutions of the tarred felt in a roll may make unrolling difficult or even impossible. If the felt is undersaturated, the finished product will be porous, capable of absorbing moisture, and therefore less waterproof. The degree of saturation is controlled by the time the felt is allowed to remain in contact with the tar, which may be governed by the depth of immersion, and the speed of travel through the tar.

The steam-heated rolls between which the felt passes prevent the paper from cooling too quickly, aid the absorption of the surface tar, and remove the excess tar. Saturated felt so prepared is employed chiefly for pitch and gravel roofs or as a basis for slate and tile roofs. It is sometimes used as building paper and as deadening felt and for waterproofing walls, tanks and tunnels, where it is applied as on a roof.

A number of kinds of tarred roofing papers, differing mainly in degree of saturation and weight per square foot, are on the market. Soft thick felts absorb more tar per square foot than thin hard felts, and a roll of tarred soft felt is therefore heavier than a similar sized roll of tarred hard felt. Some of the more common saturated felts in general...
In Japan

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November, 1922
use are slaters' felt, made in two grades, weighing 30 and 40 pounds, respectively, per 500 square feet; and tarred felt, made in three grades, weighing, respectively, 60, 70 and 75 pounds per 500 square feet.

Heavier felt than these are made but are not in as wide demand.

Bituminous Paint. (25a27)—(Technical Paper 268. Bureau of Mines.) Stonework, Brickwork, Iron. As an inexpensive coating for brick or stonework exposed to the action of acid vapors, alkalis, or the atmosphere, tar is a ready and satisfactory material. Although tar dries more slowly than some specially prepared pitch paints, it is used extensively as a paint. It should be dehydrated, and is usually applied hot.

Hot, water-free tar is also used for painting underground iron pipes and for coating castings, pipe fittings, and metal roofs that are exposed to the atmosphere. It is not so resistive to the weather as specially prepared pitch paints, but it is a good preservative and answers the purpose well where an inexpensive coating must be used.

Metal. A highly satisfactory metal paint can be prepared by dissolving pitch in the light oils obtained in the distillation of tar. Many specifications require that such a paint should be applied as quickly as possible. The lightest oil, crude naphtha, is employed as a solvent. A very hard pitch will not dissolve readily in that oil. For this and other reasons it is more satisfactory to use a medium grade of pitch. The consistency must be such that the paint will flow well under the conditions prevailing at the time it is used. However, as the light oils evaporate readily and mostly do not remain in the paint film, the more oil used per unit of pitch the thinner the paint will be the coat or film of paint. A formula for a metal paint that will flow well and can be applied with a brush at ordinary temperatures is: Medium soft pitch, 40 gallons; crude naphtha (from tar), 30 gallons.

Paint prepared according to the formula above given is very elastic, but this elasticity is not permanent. On surfaces exposed to atmospheric conditions and to the sun, the paint film gradually becomes brittle. The time required for brittleness to develop depends, in part, on the free-carbon content of the paint. A paint having a moderately low free-carbon content is superior to one of a high content. Finely ground opaque pigments are sometimes used in bituminous coatings with the intention of excluding the actinic rays of light which play an important part in the decomposition of such coatings. The paint withstands high temperatures fairly well and is accordingly well adapted for use on stacks and boiler fronts; it is also particularly adapted to use underground, in tunnels and on pipe.

When the paint can be conveniently applied warm or to a warm surface, light oil may be substituted for crude naphtha to good advantage. Similarly, when castings and fittings are "dipped," it is desirable to use light oil as a solvent and to employ a warm bath. Closed steam is preferable to a direct fire for heating the paint bath.

By the addition of certain resins and linseed oil, the latter in proportion varying from 15 to 25 per cent, a paint may be prepared, with somewhat better weathering properties, but its cost is higher.

Preservation of Timbers. (19a31)—(Technical Paper 268. Bureau of Mines.) Tar prevents decay of timber not only by its antiseptic properties but also by its waterproofing qualities, whereby the pores of the wood are filled. It is used to preserve fence posts, telephone poles, and heavy building timbers, and for such purposes is applied with a brush or the timbers are dipped in hot, waterfree tar. By far the largest proportion of the tar used for preserving timber, however, is mixed with creosote oil. Large quantities of mixtures of this nature are used annually to treat paving blocks, railroad ties, cross arms, and telephone poles.

The brush method is not as common for this purpose as the closed-tank pressure method, wherein the actual absorption of the preservative is many times greater. Although it is generally understood that some of the tar distillates are superior to tar for preserving timber (especially when the proportion of free carbon in the tar is high), the difference in first cost favors tar.

When used for treating timber the tar should be hot and free from water, and to obtain the best results the timber treated should be as dry as possible, as the absorption and penetration is considerably greater under these conditions than when the wood is wet or moist. The penetration into the wood is not so great with tars with a high content of free carbon as with those of a low free-carbon content.

The amount of preservative required per unit of area with the brush method is greater for tar than for tar distillates. The exact amount can not be stated by a figure universally applicable, because the condition and kind of wood, as well as the quality and kind of tar, affect the results. However, it can be said that a gallon of hot tar will cover approximately 200 square feet of the surface of smooth, dry poles. More tar is absorbed by dry, rough-sawed timber, and a gallon of hot tar will cover 150 to 200 square feet of such surface.


Carbon black is coming into extensive use in paints. It has a higher tinting strength than any other black; a given weight will obscure a greater area of surface. It is acknowledged to be superior for making varnishes and enamels and is much used in making black and gray paints for general purposes. The U. S. War Department requires the use of carbon black in black enamels and in various black and gray paints. Some authorities consider lamp-black superior to carbon black and it is probably true that in certain gray tints lamp-black is superior on account of its bluish-gray tones.

Carbon black, as known to the American trade, is a fluffy, velvety-black pigment produced by burning natural gas with a smoky flame against a metal surface. In its physical characteristics it is entirely different from lamp-black, which is made by burning oil or other carbonaceous material with insufficient air and collecting the smoke in settling chambers. Lamp-black is gray in contrast to the deep black of carbon black.

Sampling and Testing Highway Materials. (11)—(U. S. Department of Agriculture. Bureau of Public Roads. Bulletin No. 949. "Standard and Tentative Methods of Sampling and Testing Highway Materials.") Pages 98. Size 6" x 9". (Illustrated.) This bulletin embodies the recommendations of the Second Conference of State Highway Engineers and Chemists. It includes abrasion tests for broken stone and gravel, tests for hardness and toughness of stone, for apparent specific gravity of stone and other coarse materials, of sand, slag screenings and other fine non-bituminous highway materials, tests of weight and voids of coarse and fine aggregates, sieve analysis of broken stone, gravel, pebbles, broken slag, sand, fine aggregate and mixtures of fine and coarse aggregates, tests for determining the
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amount of clay and silt in sand or fine aggregate, in gravel and in sand-clay, top soil, or semi-gravel; tests for quality of water to be used include, for organic impurities in concrete aggregate, and for mortar making quality of fine aggregates; tests for Portland cement, for paving brick, for bituminous road materials, a number of tentative tests and recommended methods of sampling.

Rugs and Carpets. (281)—(U. S. Department of Agriculture. Farmers' Bulletin 1219. "Floors and Floor Coverings." Pages 36. Size 6" x 9"). The majority of modern textile rugs and carpets are woven on power looms perfected by American manufacturers. Ingrain, Brussels, Wilton, Velvet, and Axminster are the most common kinds. In addition to these, there are oriental rugs and various adaptations of the old-fashioned rag rug now manufactured on a large scale in factories, as well as fiber and grass rugs and matting.

All carpets and rugs, whether they have a pile, as in Brussels, Wilton, or Axminster, or a plain weave like ingrain, are made up of warp and weft threads. The warp threads, or chains, as they are often called, are those that run lengthwise and are set in the loom; the wood, wool, or filling threads run crosswise through the warp. Worsted, woolen, cotton, linen, hemp, and jute are all used for carpet yarns. In general, the best pile carpets have a worsted surface and a clean, smooth linen or hemp backing. When woven the difference between worsted and woolen for carpets is hard to detect, but worsted wears better and is made of coarse, hairlike wool, doubled and twisted after spinning, while woolen is softer and less lustrous and durable.

Ingrain.—Ingrain carpet is woven like plain cloth from 2-ply or 3-ply yarn dyed before weaving. The warp, often made up of threads of various colors, forms the design and is so handled that the greens of the design on the face become the color of the figure on the reverse, and an ingrain carpet can therefore be used on either side. The mixing and weaving of these threads of different colors is called ingraining, and the more closely it is done, or, in other words, the greater the number of warp and filling threads per inch, the more durable is the carpet, provided good materials are used.

Many grades of ingrains are on the market, and material, weave and weight should all be carefully considered before a choice is made, because they affect the wearing quality. The all-wool kinds with worsted warp and woolen or worsted filling are best and at the same time most expensive, while those with cotton warp, or chain, and woolen filling are cheaper but less desirable, because they will not hold their color so well and are likely to shrink. A light-colored wool or wool-filled carpet is likely to contain more pure wool than a dark one, for the dark colored woools can be more easily adulterated with animal hair.

There are also modifications of the ingrain carpet sold under a variety of names. The Kidderminster is woven on an ingrain loom and gets its name from the city in which it was originally manufactured. Venetian is also an ingrain with a colored worsted or cotton warp, which forms the figure, and with a jute filling. Pro-Brussels is still another grade with a jute warp and a wool weft.

Art squares are seamless ingrain rugs, often oblong in shape and with fringe on the ends and are sometimes called druggets, referring probably to their use as a protective covering for more expensive carpets. Scotch wool rugs are also ingrains, but the wool yarn used is very heavy and the finished rug is more firmly bound than an art square.

Brussels.—Brussels carpet, so called because it was first extensively manufactured on Flemish looms in and around the city of Brussels, is a loop-pile carpet with two or more warps and one or two fillings. One warp is always colored worsted yarn raised in rows of loops to form the surface pile by being thrown over wire inserted with each filling thread. These loops are held in place by the other warp and the filling, which form the back and may be of linen, hemp, cotton, or jute. The wires are set from 7 to 10 to the inch, and are drawn from the fabric after several inches have been woven. The closer these wires are, the heavier and more durable the carpet woven.

In genuine Brussels each color of the worsted warp is dyed separately in the yarn, and in weaving is carried on a separate frame. As many as six frames may be used in the best grades. The number of colors is limited therefore to six in any straight line running lengthwise of the carpet, and whenever one of them is not needed in the design on the surface, it is buried in the body of the carpet and may be seen on the wrong side among the backing threads. From this has come the name body Brussels. In judging the quality of a Brussels carpet, one should note how close together the rows of loops are on the surface, whether the colored warp shows on the wrong side, and whether the thread used for the backing is clean and smooth. Dirty, lumpy backing thread generally indicates poor quality.

Tapestry Brussels is an imitation of body Brussels and is inferior to it in both appearance and durability. The design is not woven in with several warps each of a different color as in body Brussels, but is either printed on one warp before it is woven or is printed on a plain-colored carpet after weaving. Less worsted yarn is therefore used, the design is not so distinct, more colors are used, and no color appears on the back unless stamped there after weaving. The worsted yarn is generally of poor grade, and jute or some inexpensive fiber is used for the backing. Also, the rows of loops are farther apart than in real Brussels, and often only one thread is used in a loop. Tapestry Brussels generally, however, costs only about half as much as body Brussels.

Brussels carpet is about 27 inches wide as sold to the general trade, but is often sewed into rugs with borders to correspond. The surface is free from line and rather easy to clean. Just at present, (1921), comparatively little Brussels carpet is on the market, for the cut-pile types can be more easily and cheaply manufactured, but there is every indication that its popularity will return.

Wilton.—Wilton carpet is woven in the same way as Brussels, except that the loops are cut by a knife attachment on the wires that raise the pile in weaving, thus giving a plushlike surface. The pile is higher than that of a Brussels, the yarn for both surface and back is generally of better grade, and the Wilton is more firmly woven and contains about 50 per cent more yarn than a Brussels. The more wires there are to the inch in weaving Wilton carpet, the better the quality. Wilton carpet is woven in several widths, varying from ¾ to 1 yard. The large Wilton rugs are woven in strips, which are accurately matched in design and so firmly sewed together that unless closely examined the rug looks as though it were woven in one piece. The designs are in many cases skillfully worked out in soft harmonious colors from oriental rugs and carpets as patterns.

There are two general types of Wilton, worsted and woolen, so called because of the kind of material used in the warp that forms the pile. The worsted Wiltons are more expensive than the woolen, but will withstand harder wear and are generally made in more attractive colorings and designs.
It is a commonly accepted truth that trade-marks are guides to good merchandise. The reason is obvious. A manufacturer could not afford to put his name upon an article that did not stand up to the claims he made for it.

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**Velvets.**—Many persons in this country call all machine-made cut-pile carpets and rugs velvets, but this encroaches on a commercial name given to an imitation Wilton, and in buying a so-called velvet rug this distinction should be remembered. Velvet carpet and rugs are made in the same way as tapestry Brussels, except that the loops are cut, but on account of the longer pile they contain more wool. Velvets should be cheaper than Wiltons for the same reasons that tapestry Brussels should be cheaper than body Brussels; that is, they contain less worsted yarn. The heaviest qualities of velvets are said to wear almost as well as good-quality Wiltons.

**Axminster.**—Axminster carpets and rugs have a thick, cut pile and somewhat resemble Wiltons, though the method of weaving is quite different and a greater range of colors is possible. They have two warps and two fillings and hence are not so heavy and are less closely woven than Brussels and Wilton. For these reasons, they require less material and less time to manufacture. The pile is made by fastening tufts of woolen yarn into the warp, and in this respect an Axminster is woven like a handmade oriental rug, except that on the power loom ingenious snippers take the place of the deft fingers of the oriental weaver. This woolen tufting is sometimes adulterated with jute and coarse animal hair, and before buying an Axminster it should be carefully examined at close range on both front and back. These inferior materials generally feel harsh or fibrous to the touch. The more closely the back is woven the better the carpet will wear.

The best Axminsters are very durable; and a wide range of design, coloring and depth of pile may be obtained at a fairly moderate cost. The cheaper grades of Axminsters are not considered so durable as Wiltons and Brussels, and will show effects of hard service rather soon.

The chenille rugs and carpetings having a wool backing and a weft of tufted cord, which is woven separately, are a modification of the Axminster. They can be woven any length and as wide as 30 feet without seams and in any shape desired. Many of them have two-toned borders and centers, either plain or broken by inconspicuous conventional designs. Though expensive, these chenille rugs are said to be exceptionally durable.

**Oriental Rugs.**—Oriental rugs are those woven in one piece on hand looms in eastern countries, and as a whole are the most beautiful and sought after of all floor coverings. They have a linen, hemp, or wool warp and filling and a pile of tufts of woolen or occasionally silk yarn knotted into the warp by hand and evened with scissors. Weaving rugs in this way is, of course, a laborious process, requiring great dexterity and skill, and only after the rugs have lain on the floor for a long time and been polished by the wear of oriental sandals do they attain their greatest beauty and value. The value of a genuine oriental rug depends on the design, the fastness of color, the compactness and evenness of the weave, the number of knots to the square inch, and the care that has been taken of it.

Formerly beautiful old rugs could be bought at fairly reasonable prices, but during recent years the demand has increased to such an extent that good genuine ones are out of reach of all except those who can pay high prices. To meet this demand quantities of rugs are being woven in oriental countries, in some cases under factory conditions, in imitation of the antiques. These do not have the compactness and evenness of the weave, the number of knots to the square inch, and the care that has been taken of it.

In some cases, however, oriental rugs are bleached and treated with chemicals in order to soften the garish colors resulting from aniline dyes and to give them sheen, and such rugs are likely to wear out quickly. Sometimes this bleaching is so skillfully done that even expert judges of rugs are deceived, but there are a few signs that even an amateur can recognize. If cheap, crude dyes have been used, the darker colors generally run into the lighter, making the design blurred. If the rug has been very much bleached, the colors on the surface of the pile will be soft and dull, while by separating the threads and looking closely the colors at the base will be found to be clear and bright. Rubbing the surface briskly with a damp cloth will bring out the odor of chloride of lime with which the rug has been bleached, and very often the cloth will be stained with the colors. As a general rule, it is safe to buy oriental rugs only from reliable dealers.

This bulletin also contains a general discussion of rag carpets and rugs, fiber and grass rugs and matting, utilizing old carpets and rugs, care of rugs, carpets and matting, linoleum, oilcloth, and finish of wood, stone, concrete, composition and tile floors.

**Lime.**—Packages, Storage, and Proportions. (3c)—(Circular of the Bureau of Standards No. 106, "Lime—Definitions and Specifications." Fifteen pages. 7" x 10").

**Packages.**—Ground limestone comes in burlap bags of various sizes. Possibly the most common size weighs 157 pounds net, or 12 bags to the ton. Paper bags, 24 to the ton, are also used.

When quicklime goes direct from manufacturer to consumer, or when the retailer has facilities for storage, the lime is shipped in bulk in box cars. The usual retail package is the wooden barrel. Federal law prescribes that a barrel of lime shall weigh either 180 or 280 pounds net, and shall be marked to show its weight, the name of the manufacturer, and the place where it was made. The larger barrel is used in New York City; practically all other markets use the 180 pound barrel. The cost of wood is now so high that steel barrels are coming into use in many localities. A steel drum which can be sealed air-tight has found extensive use as a container for chemical lime, where the lime must not be air-slaked in transit. A new package which is in use in one locality is a waterproof pasteboard carton, holding 90 pounds.

The standard package for hydrated lime is a paper bag, holding 50 pounds. A smaller package, about 10 pounds, has recently come on the market to be retailed by grocers for use on kitchen gardens and lawns.

Air-slaked lime is not packed or shipped. It can be obtained by the load from local manufacturers or dealers.

**Storage.**—The storage of quicklime requires especially constructed bins or buildings, designed to be as nearly airtight as possible, and, above all, to keep the lime dry. The amount of heat generated by air-slaking is frequently sufficient to set fire to wood. The storage of quicklime in a wooden bin or building constitutes a serious fire hazard.

The air-slaking of hydrated lime is indicated by the formation of a crust of hard material at the exposed surface of the package. This crust and the fineness of the powder make it difficult for the air to penetrate very far into the package, so that usually only a negligible proportion of it is spoiled. The air-slaking of hydrated lime is not accompanied by the evolution of enough heat to be dangerous.

Hydrated lime should therefore be stored in the same way as Portland cement: It should be reasonably protected from the weather, and should be kept dry.

**Proportions for Use.**—Whitewash may be made according to the following formula: Add enough water to 17 parts of lime to make it nearly as thick as heavy cream.
This large institution, the Edward Hines, Jr., Memorial Hospital at Maywood, Ill., has 600,000 square feet of Master Mix Floors. Contractor, Shank Company, Chicago. Acting Supervising Architect, James A. Wetmore.

The Master Builders Co.,
Cleveland, Ohio.

RE: EDWARD HINES, JR., MEMORIAL HOSPITAL,
MAYWOOD, ILL.

Gentlemen:

Your letter regarding our experience in the use of your product, MASTER-MIX, for the above job, we take pleasure in answering.

MASTER-MIX was adopted for all the floors in this building which are cement finish, after a thorough investigation of all the various products offered in competition.

We are not sorry for our selection and your claims were all verified and even more so.

The topping was applied on a set slab, and we not only used MASTER-MIX in the top finish but followed your directions and used it as a bonding coat and it proved its value in this respect. We had but a few hundred square feet that was not bonded, over an area of 600,000 square feet where we found that failure was caused by the slab not being cleaned of plaster that had fallen before topping was applied.

The floor finish with the MASTER-MIX is very dense, hard, and dustless. From the contractor's standpoint, it is a big advantage for time and labor saving, a claim you make that we doubted at the start.

We are glad to lend a good word for the advancement of your product. If you could carry these floors around as a sample, you would sell every prospect.

Very truly yours,
SHANK COMPANY,
By Geo H. Shank,
President.

Master Mix is a liquid integral cement accelerator — hardener, waterproofer and anti-freeze compound. Master Mix, by securing maximum hydration of each particle of the cement, creates as dense concrete as it is possible to obtain. Because of this density, capillary attraction (due to porosity of ordinary concrete) is eliminated, thus rendering the concrete permanently waterproof. Master Mix is no surface treatment—it hardens and densifies the entire topping. This means permanently wearproof floors.


The Master Builders Co.
MAIN OFFICES:
CLEVELAND, OHIO
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Factories at Cleveland and Irvington, N. J.
pounds of hydrated lime to make a thick cream. Dissolve 1 pound of washing soda in 1 gallon of boiling water, and add this to the lime. Dissolve one-fourth pound glue and 1 pound rice flour in three quarts of water. Add this to the above mixture and apply. The above quantities will make enough whitewash to cover about 600 square feet.

Enough lime mortar to lay 1,000 bricks can be made from 1¾ barrels of quicklime, or 5 bags of hydrated lime, and one-half cubic yard of sand. If a stronger mortar is desired, use 1½ bags of hydrated lime, one-half barrel of Portland cement, and one-half cubic yard of sand.

For the second, or brown, coat of plaster, use 100 pounds of hydrated lime, 400 pounds of sand, the above mixture and apply. The above quantities make enough whitewash to cover about 600 square feet.

The first, or scratch, coat of plaster should consist of 100 pounds of hydrated lime, 350 pounds of sand, and three-fourths pound of hair. For the second, or brown, coat, use 100 pounds of hydrated lime, 400 pounds of sand, and three-eighths pound of hair. The third, or finish, coat is made of one volume of calcined gypsum to two volumes of lime putty, using either quicklime or finishing hydrate.

Hog Houses. (351)—(U. S. Dept. of Agriculture. Bureau of Farm Management and Farm Economics. Farmers' Bulletin 438, by J. A. Warren. Pages 24. Size 6" x 9". Illustrated.) This bulletin discusses the following subjects: need of shelter for hogs; prevailing conditions; cost of housing; varieties of hog houses; hog cots or individual houses; construction; location of windows. Illustrations, drawings and diagrams are used to indicate both the faulty and proper design.

Poultry Housing. (351)—(College of Agriculture, Univ. of Maine. Bulletin No. 133 by O. M. Wilbur. Pages 12. Size 6" x 9". Illustrated.) This bulletin contains a short discussion of the essentials in poultry housing and detailed drawings and description of the type of colony house recommended for the latitude of Orono, Me. (45°).

Bird Houses and How to Build Them. (U. S. Bureau of Biological Survey. Farmers' Bulletin 609. Pages 21. Size 6" x 9". Printed.) This bulletin contains instructions for making houses suitable for the different kinds of birds known to use them or likely to do so. It contains a large number of house plans.

The Lighting of Large Dry Goods and Department Stores. (31f14)—(Bulletin L. D. 132. Lighting Data. Edison Lamp Works. Size 6" x 9". Pages 24.) This bulletin discusses the general considerations applying to store lighting, desirable intensity of illumination, color of light and diffusion, arrangement and systems of lighting, choice of reflecting or diffusing equipment, selection of fixtures, spacing of outlets and hanging height, present practice and special considerations.


The Lighting of Metal Working Plants. (31f13)—(Bulletin L. D. 134. Lighting Data. Edison Lamp Works. Size 6" x 9". Pages 20.) This bulletin discusses methods of lighting and general considerations as well as detailed recommendations for bench work, machine tool work, sheet metal work, assembling and painting.

The Nation's annual loss through corrosion of welded pipe is probably close to $100,000,000.00. Multiply this amount by seven, and you arrive at the concurrent loss of fittings, valves, cocks, gaskets, bends, labor and other items in a pipe installation. This does not include allowance for idle time or damage to property attendant upon many pipe failures.

Corrosion, while not preventable, may be greatly retarded by the use of Byers genuine wrought iron pipe. Its life is recognized to exceed that of ordinary black or galvanized pipe by 100 per cent up to 500 per cent, while in cost it adds but five to ten per cent to the average pipe system.

If you would avoid the big losses and annoyances caused by the use of cheap pipe, investigate past performance records of iron and steel pipe. (Ask for Byers Bulletin No. 27, 30 and 32.) Then look into the Analyses of Pipe Installation Costs, presented in Byers Bulletin No. 38.

Byers Bulletin No. 38 contains cost analyses of a variety of plumbing, heating, power, and industrial pipe systems, with notes of corrosive conditions. Sent free on request.

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BYERS PIPE
GENUINE WROUGHT IRON

INDUSTRIAL SECTION
JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
November, 1922
The tower of the Schiller Building, Chicago, originally named the German Opera House. The auditorium is now used as the Garrick Theatre. Built 1891—thirty-one years ago; Adler and Sullivan (Louis H.), Architects.

The entire facing and trim is unglazed Northwestern terra cotta of light gray color. The fine enrichment of the tower is surpassed in the exquisite detail of the lower stories, to be illustrated at a later date.

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PEELLE Counterbalanced Truckable Freight Elevator Doors are efficient, not because we say so, but because we make them so. Their ability to stay "on the job" year after year, is built into them. Exacting construction insures that brand of uninterrupted, untroubled service that may be rightfully called efficient.

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Counterbalanced - Truckable
The "Big Scene" in Cement Making

The climax in the huge impersonal drama of cement making is the burning of the raw materials in great rotary kilns. One of the largest kilns, set on end, would be as tall as a 20-story building. A touring car could run through it.

The kilns are steel cylinders lined with fire brick. They rest at a slight angle from the horizontal on heavy rollers, and are driven by steel gears at half a revolution a minute. A medium-sized kiln weighs 275,000 pounds, empty, and has foundations as heavy as for a 10-story building.

Into the upper end of the revolving kilns flow the finely ground materials for cement. There they meet a blast of burning pulverized coal, blown in at high pressure from an 8-inch jet at the opposite end.

Where the materials enter the kiln, the temperature is 1,000 degrees Fahrenheit or more. As they tumble over and over on their 3-hour journey through the kiln in the face of the flame, they rise gradually to a temperature of 2,500 to 3,000 degrees—more heat than is required for almost any other industrial process.

The workman, watching through his peephole in the end of the kiln, must wear smoked glasses. It is like looking at the sun. And if you speak to him, you must shout close to his ear to be heard above the roar of the flames.

In a big cement plant, there will be a dozen or more of these kilns, roaring and revolving side by side in one great room.

A medium-sized kiln's output is 25 barrels an hour, and in that time 3,500 pounds of coal must be blown into it.

You may have seen the great smoke stacks in rows over a cement plant. There is a stack for every kiln, and four kilns make a medium-sized plant, with 3,000 barrels capacity a day or thereabouts. When you see four of these stacks together, you can know that enough coal or equivalent fuel is being burned in the kilns beneath to supply the electricity for the homes, streets, shops and industries of three ordinary cities of 20,000 inhabitants each.

In a certain town of 12,000 inhabitants there is a 4-kiln plant where the heat lost through the stacks, because of the great temperature and draft required below, would, if it could be captured, supply three times the electric light and power used by all the rest of the town. Burning cement, costly as it is, is only one of the heavy fuel consuming operations in cement making.

Every ton of cement you buy takes the equivalent of more than half a ton of coal in heat and power to make it—more than 200 pounds, that is, to the barrel of 376 pounds.

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A National Organization
to Improve and Extend the Uses of Concrete

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Salt Lake City
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Seattle
St. Louis
Vancouver, B. C.
Washington, D. C.
Plumbing Facts

Water Just Leaking Drop by Drop
15 gallons per day
105 gallons per week
5,475 gallons per year
Cost per day........ $ 0.0375
Cost per week....... 0.2625
Cost per year....... 1.36875

Water Leaking Through One-Fourth Inch Aperture
17,425 gallons per day
121,975 gallons per week
6,360,125 gallons per year
Cost per day........ $ 4.356
Cost per week....... 30.493
Cost per year....... 1590.031

Water Leaking Through One-Half Inch Aperture
70,488 gallons per day
493,416 gallons per week
25,728,120 gallons per year
Cost per day........ $ 17.622
Cost per week....... 102.354
Cost per year....... 6432.03

No other single item causes more trouble and repair bills for your client than does faulty plumbing. Think of your own personal experience.

The greatest cause of plumbing trouble and repairs is due to the use of cheap brass trimmings. Don't permit the use of anything but the best in plumbing brass goods.

Clow Trimmings are of red metal, designed in every detail to stand hard usage and long wear. When you specify "Clow plumbing throughout" you insure your client against future troubles.

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The Schenectady County Poor Farm, Schenectady, N.Y., is warmed by a central heating plant. A battery of two Ideal 79-inch Water Tube low pressure boilers are connected with 8150 feet of radiation. The installation was made by the Carl Frank Co., Schenectady, N.Y.

Poor in pocket—Rich in warmth

Though poor in pocket the tenants of the Schenectady County Poor Farm, Schenectady, N.Y., now enjoy better warmth than the owners of too many first-class homes.

And the County, last Winter, saved 50 tons of coal!

The Poor Farm consists of several buildings, distributed over a city block, and warmed from a central heating plant.

Though the old heating plant carried a constant load of from eight to ten pounds of steam, it failed to deliver adequate warmth. So the old boilers were replaced by two Ideal 79" Low Pressure Boilers.

This is what the superintendent, Mr. Chisholm wrote at the end of the winter:

We are gratified with the change to the Ideal 79" Boilers. Instead of carrying eight to ten pounds of steam, the entire system of 8150 feet of radiation now warms quickly on three to four pounds. And from November to April we have saved easily fifty tons of coal.

Ideal 79" Water Tube Boilers have many new and interesting points of construction; every Architect or Heating Engineer interested in adequate heating equipment for apartments, schools, hospitals, hotels, theatres, banks or office buildings, should have the booklet describing them.

Your name on your letterhead will bring it at once.

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Ideal Boilers and AMERICAN Radiators for every heating need

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NEW YORK

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A Kewanee Smokeless Boiler burns *all* its coal—hence none of it is wasted up the stack as smoke. The man who pays the coal bill appreciates the saving—usually it is a big one.

Furthermore, Kewanee Smokeless Boilers have "burned" their way into the hearts of owners by their ability to burn *any* coal. Your reputation is safe when you specify and install a Kewanee.

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of rubber composition, aside from always forming a perfect contact with the seat, takes up the wear of opening and closing.

A BRASS GLAND OR FOLLOWER under the bonnet nut compresses the packing in the bonnet and is an additional precaution against leakage.

THE strains, that come with expansion and contraction or lifting and settling of piping, and which play havoc with light-weight, cheaply constructed valves, do not affect Jenkins Radiator Valves.

Jenkins Valves contain more metal and are much heavier in design and construction than others. They have reserve strength to take care of the strains.

Fig. 168, which is shown here, is Jenkins Brass Radiator Angle Valve with union. All of the commonly used types and body finishes can be supplied.

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Jenkins Valves
SINCE 1864

Industrial Section

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

November, 1922
SCHOOL buildings are designed for long service at low up-keep cost. The walls must be kept dry to insure the good health of the children. Therefore, the building must have a weather-proof roof.

The architects of this building chose a Carey Asphalt Built-Up Roof, because they wished to protect it permanently. Asphalt is conceded to be the longest-lived bituminous waterproofing material and Carey Asphalt Built-Up Roofs contain the highest grade asphalts, refined and compounded in the Carey refineries.

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A Helpful Reference Book

This publication is one which many architects have found of considerable practical value as a reference book.

It supplies accurate and essential facts based upon collective experience and an extensive study of all aspects of swimming pool construction.

The standard designs and details presented in this book have formed the basis for designs adopted by a number of official and private organizations.

Among others, the California State Board of Health prepared many of its regulations and recommendations upon principles set forth, and incorporated parts of the text, plans and illustrations in its own publications.

This book also serves as a text book in a number of colleges and architectural schools. If it is not in your library, a copy will be sent on request without charge.

The Associated Tile Manufacturers
Beaver Falls, Pa.
In planning wood construction, give careful consideration to these facts about Southern Pine:

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Indiana Limestone Gateway to Chicago from Lake Michigan

The new Michigan Boulevard Link Bridge, Chicago, recently was completed. In many respects it is considered to be the greatest improvement this city has attempted, and forms a through North and South connection between the business and residential districts.

It is a trunnion bascule bridge with a lower level for teaming traffic. Near each end of the bridge the approaches are widened out into spacious oval-shaped plazas provided with ornamental Indiana Limestone balustrades and safety islands. On either side of the plazas, Indiana Limestone steps lead down to the dock level.

The illustrations above show the bridge, plazas and ornamental portals over the intersecting streets. At each corner of the bridge are located operators' towers and machinery inclosures beautifully designed in Indiana Limestone. The beauty and dignity of this natural stone stand out in striking dominance amid surrounding structures built of inferior materials.

Indiana Limestone is an ideal material for impressive bridges because it combines beauty, safety and permanence.

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THE ARCHITECT recognizes beautifully carved wood as the most appropriate medium for the adornment of the church interior. He will find our Wood Carving Studios ready to co-operate with him to any degree in the interpretation and faithful execution of his designs and specifications; or in designing fitments to conform with his architectural treatment.

Our recently published book, "Ars Ecclesiastica," contains illustrations of memorials and other church interior work in carved wood. The architect's request for a copy will bring him a useful addition to his reference library.

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An interesting and pleasing effect has been obtained by the use of Tudor Stone for the roof of this Gun Room. In the heart of New York City, it adds a cheery bit of color to its surroundings.

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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
November, 1922
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The driving screw is of steel with double square threads and the traveler that runs on this screw is of cast bronze, thus avoiding the danger of these two parts rusting together.

The slide which runs inside the arm is covered with fiber which makes the device noiseless and also eliminates friction.

This device may be used concealed or exposed. (See Figs. 1 and 2.) Furnished in Iron Electro Galvanized for painting and in Brass or Bronze Metal.

We recommend that the Electro Galvanized device be used and painted at the job to match the wood work.

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INDUSTRIAL SECTION JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS November, 1922
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Bank lighting must not only be efficient, it must unite with the design and proportions of the banking room in expressing the dignity and power of the institution.

Each Frink installation is especially designed to meet these two conditions. Every surface, whether counter or desk, is studied to secure illumination of maximum efficiency with minimum of eye strain.

Frink Lighting systems are readily adapted to any form of structure or architectural motif.

For these reasons, cooperation between the architect and the Frink Engineering Department cannot be too early established, that the Frink Lighting System may be made an integral part of the plan.

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Write for our Special Bank Catalog, No. 21, covering Frink Screen Reflectors, Desk Reflectors, Upward Diffusers and Polaratlite Signs.

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The American Institute recommends, without reservation, the Contract Forms named above. They are recommended to the building industry as a whole, and to the Architectural Profession regardless of Institute affiliation.

The Standard Documents, those listed first, are nationally known and used. Progressive architectural firms are discarding private forms, or local forms, and are incorporating the Institute Documents into their office practice.

All the evidence shows that the building industry is due for a prolonged period of activity. There is hardly an Architect who does not understand the significance of this to the profession as a whole, and to himself individually.

An architectural firm's reputation, based on business ability, is worth much when it becomes established among those who look for it first—the business men of the average American community. Leave no stone unused in making thorough, incisive, correct business methods and Contract Forms a part—a habit—of your organization.

Use the Standard and Other Contract Documents of the American Institute.

If your local dealer cannot supply the forms, order direct from the Executive Secretary, The A. I. A., The Octagon House, Washington, D. C. All orders filled the day received, transportation prepaid.
Housing Reprints—I

THE first of a series of illustrated articles upon the subject of housing the world over—"Amsterdam—Old and New," by Clarence S. Stein, which appeared in the October number. It is a comparison of the methods used in solving the problems of New York City and Amsterdam. Two weeks after publication the original edition was exhausted, and a reissue has just been brought forth to meet the demand.

Thirty Cents, Postpaid

The Press of the American Institute of Architects, Inc.
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CONTENTS

MICHELANGELO

THE AUTOBIOGRAPHY OF AN IDEA

CASTLES IN SPAIN—II

SOME COMPARATIVE NOTES ON THE DOME OF ST. PETER'S AND THE ORIGINAL MODEL BY

Cooperative Housing

Community Planning and Housing

Town Planning in England

Announcement

Lloyd Eliot Warren

Public Information About Architecture

The Architecture Club

The Labouisse Prize

From Our Book Shelf

Obituary

News Notes

Structural Service Department

Louis C. Rosenberg. Frontispiece

Louis H. Sullivan 371

Georgianna Goddard King 377

Victor L. S. Hafner 386

Frederick L. Ackerman 388

Clarence S. Stein 390

Thomas Adams 394

John V. Van Pelt 397

J. C. Squire 398

399

401

402

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Louis C. Rosenberg
The Autobiography of An Idea

By LOUIS H. SULLIVAN

Chapter VII.

Boston

The New Rice Grammar School

One day, in Boston, a boy of nine was walking northward on the east side of Washington Street. Just then “Yankee Doodle” came along whistling his tune to a brisk step, a pair of boots slung over one shoulder of his faded blue jeans; and, under a stovepipe hat, much battered in the strife of years, this agile elderly man wore a grey chin beard after the manner of Uncle Sam. And thus went Yankee Doodle tirelessly up and down Washington Street, always on the east side of it, day after day, year after year. In a legendary sense he was a cobbler. The boy watched his kindly face approaching, and for the hundredth time admired in despair the clear sharp whistle which he had tried in vain to emulate; and, as Yankee passed on southward the boy turned east into South Bennett Street following the south sidewalk. About midway to Harrison Avenue a paper bag struck the sidewalk in front of him, burst, and hard candies scattered over the pavement. The boy, startled, looked around, and then up. In a second story window, straight across the way, appeared two fat bare arms, an immense bosom, a heavy, broad, red face, topped with straight black hair. A fat finger beckoned to him; a fat mouth said something to him; and at the doorway of the house was the number 22—the house he had been born in; but the silver nameplate marked P. Sullivan in black script was no longer there.

He had been led to the spot, which he had not seen for years, by a revived memory of a sweet child named Alice Look, who lived next door when the two of them were three together. He had wished to see once more the sacred dwelling wherein she had lived and the walled yard in which she had mothered him and called him Papa in their play.

Much troubled, he walked on to Harrison Avenue, where Bennett Street ends its one block of length. There he noticed that the stately trees were bare of leaves and sickly to the sight, while on the twigs and among the branches and even on the trunks were hundreds of caterpillar nests which made the trees look old, poor and forsaken. While he was counting the nests on a single tree, caterpillars now and then would come slowly downward from the heights. Some of them would remain for a time in mid-air, suspended invisibly, before completing their descent, perchance upon a passerby. The boy was examining one of these caterpillars undulating upon his coat sleeve, when his quick ear detected the sound of snare-drums. Crowds began to gather on the sidewalks. Slowly the drums beat out their increasing sadness, pulsing to a labored measure of weariness, and finally, as a faint bluish mass appeared vaguely in the north. The sidewalk crowds became dense—men, women and children stood very still. Onward, into distinctness and solidity, came the mass of faded blue undulating to the pathos of the drums. The drum corps passed—and in the growing silence came on and passed ranks of wearied men in faded blue, arms at right shoulder, faces weather-beaten, a tired slow tread, measured as a time-beat on the pavement, the one-two of many souls. And to these men, as they marched, clung women shabbily clothed, with shawls drawn over their heads, moving on in a way tragically sad and glad, while to the skirts of many of these women clung dirty children. Thus moved in regular mass and in silence a regiment of veterans, their women, their children, passing onward between two tense rows of onlooking men, women and children, triple deep, many of them in tears. So vivid was this spectacle, so heartrending, so new this aching drama of return, that the boy, leaning against a caterpillar tree, overflowed with compassion. When he had ceased weeping upon his coat sleeve, Harrison Avenue
was vacant; but not so the boy—he in fullness of sympathy was ill with the thought of what all this might mean. What was the mystery that lay behind these men in faded blue? He found no sufficing answer. The men had been mustered out, he had been told; that was all.

He chafed until he got permission to go to South Reading for a week end; ostensibly to visit the grandparents, surreptitiously to visit Julia, to whom alone he could bare his heart. He knew in advance what Grandpa would say; he knew in advance what Grandma would say; he wished eagerly to learn what Julia might say. So after earnest greetings with Grandpa and Grandma he slipped quietly to the kitchen. Julia was not there. He moved to the barn; Julia was not there. Then, in dime-novel fashion he made a detour through the old orchard, dodging from tree to tree in Indian fashion, examining the grass, crawling slowly on all fours, bent on surprise, signalling to an imagined companion in the rear, cautiously advancing until he caught a glimpse of a broad back, topped with messy hair on fire. He approached at a flat crawl and, from behind the next tree, saw Julia sitting on a milk stool peeling potatoes. Now came the villain's mad rush. Julia was seized savagely—with an arm around her neck, her head pulled back, her face kissed all over, her hair roughly tousled, her shoulder pushed hard, her stool kicked from under her as Louis, in a warwhoop of joy, hailed her as Ireland's hope, Queen of the orchard, and was greatly pleased.

Not so Erin's daughter. Sitting broadly on the grass, shaking a clenched fist, she screamed: "Ye rat, ye vile spalpeen. To think o' the likes o' ye takin' me unawares; and ye've upset the spuds and me pan of fresh water. May the divil fly away with ye. Get y'self out o' here before I smash ye with the stool," and Julia's language became violent in a torrent of brogue, as, madly erect, she swung the stool and let fly while Louis, as useful as your own valued activities, inasmuch as it, marking simply: ah, I hear you and Julia are visiting again in the grass, gasping for breath, while Louis went with one hand on the tale, I told ye of the man who looked too long from behind the next tree, saw Julia resting upon her enormous thighs. And Louis sat down meekly beside her, his small hand barely touching the expanse of freckled arm. He said he was sorry, and went on to pacify her. He used Gaelic words she had taught him, words romantically tender and sweet. Julia softened. With both hands she turned his face toward her; looked at him roguishly: "Now what the devil is it ye want?" "Julia, tell me a fairy story, won't you? Just a little one, won't you, Julia?" "Divil a fairy tale there'll be told this day! Tell me about Boston. I've a brother working there. I want ye to find how he's getting on. His name's Eugene Head. He's younger than meself, he's only here wan year. He's tendin' bar in a saloon on Tremont Street near King's Chapel. I've heard he's steady and don't drink; and I've heard, too, that he knocks down quite a bit. Naw! I don't mean that he knocks down people. I shouldn't be talking such things t'ye anyway. It's sorry I am I said a word. But Boston is a hell ye know."

Then Louis opened the subject nearest his heart. He told her all about the soldiers in faded blue, and the wives and children hanging to them. What did it all mean? Why was it so sad; why did he have to cry? "Well, Louis dear, ye know war's a sad business; those men ye saw had just been mustered out of the army, they were good fighting men, but all tired out. From the shawls the women wore and the dirty childer, I know the whole crowd was Irish and poor; and as everyone knows, the Irish won the war. Think of it! Holy Virgin!—the Irish fighting for the naygers! What will it be next time?" "But, Julia, what was it all for? What was back of it all?" "I'll not be telling ye what was back of it all, tho' well I know. I'll waste no breath on one who has no moind. Besides you're too young and ye have no education. Ye wouldn't understand. Why the divil don't ye stick hard to yer books, and learn? What in the name of all the saints d'ye think your father is spending his good money on ye furr? Filling yer belly with food, giving ye a good, clane bed to sleep in, putting nice clothes on ye, buying ye books, except that he wants ye to have an education? The Irish are proud of education, and yer father's a proud man, and he wants to be proud of his son. In God's name why don't ye do yure share? Ye remember the tale, I told ye of the man who looked too long at the moon? It's a tender heart indade, ye had like- wise to be lookin' at thin dirty childer hangin' to the mither's skirts! It's a big heart ye had and a fine education ye have that ye didn't think at wanst when ye saw thim very childer was part of what as ye say lies behind it all? God! me heart aches in the tellin: for the min ye saw come back wuz not all the min that went out; but I'm through. I'll tell ye no more of
what lies behind it all; but I'll tell ye some more about education, for I want to knock a bit of sense into yure empty skull. Yere all sentiment, Louis, and no mercy. You've kissed the Blarney Stone right well, and ye kicked the milking stool from under me.

"Now the story I'm to tell ye I got from one of me girl friends whose brother said he knew the man by reputashun, and that he came from County Kerry where the Lakes of Killarney a're I've told ye so. Where the Lakes of Killarney a're I've told ye so. Me two feet is sore wid me weight. And take along run along and carry in the wood, and do the chures. But his heart was not in it. Julia had told the story mockingly. She seemed to leave in it somewhere a sting he could feel but probably she was not aware of it then. Julia seemed to her father support ye when ye ought to be wurkin'."

"This man from Kerry was in some way connected with the army, as most of the Irish were, for they're natural fighting min from the oldest times. And wan day as he was out a-walking fer his health, and faring to and fro, he came upon a blanket lying on the ground; and at once he picked it up and with great loud laughter he sed, sed he: Sure I've found me blanket with me name upon it: U fer Patrick and S for McCarty; sure did, and add some fancy flourishes of their own. Now this is just another Irish yarn." "Will, maybe it isn't true and maybe it's just a yarn; but I belave it's true and I want to till ye this: the man from Kerry had a rale edication. Ye may think I'm a-jokin' now, but when ye get older and have more sine ye'll be noticin' that that's the way ev'rywan rades; and the higher educated they are, the more they rade just as Pat McCarthy did, and add some fancy flourishes of their own. Now run along and carry in the wood, and do the chures. Me two feet is sore wid me weight. And take along the pans and the stool as ye go. I suppose it's the whole batch of yees I'll have to be feedin'; and I've a blister on me small toe, and me back is broke with the powers, ye ask some mighty quare questions for a lad, so I suppose there's something in the back of yer head that makes yer father support ye when ye ought to be wurkin'."

And thus Julia grumbled on to the kitchen door and Louis did the chores. But his heart was not in them. Julia had told the story mockingly. She seemed to leave in it somewhere a sting he could feel but could not understand; and he mused as to what might perhaps be behind Julia, Irish to the core. She had set him vibrating at the suggestion of an unseen power and he became rigid in his resolve to penetrate the mystery that seemed to lie back of the tale she told.

* * *

Later on, say about the age of twelve, this same boy, to his own surprise, became aware that he had become interested in buildings; and over one building in particular he began to rave, as he detached it from the rest and placed it in his wonder-world. It stood at the northeast corner of Tremont and Boylston Streets. It was a Masonic Temple built of hewn granite, light gray in tone and joyous of aspect.

Boston, as a conglomerate of buildings, had depressed Louis Sullivan continuously since he became engulfed in it. These structures uttered to him as in chorus a stifling negation, a vast No!—to his yea-cry for the light-hearted. In their varied utterance, they were to him unanimous in that they denied the flowers of the field. Some were austere, some gave forth an offensive effluvium of respectability, some fronted the crowded street as though they had always been there and the streets had come later; some seemed to thank God that they were not as other buildings, while others sighed: I am aweary, aweary. Most of them were old and some were very new; and individually they impressed Louis, in their special ways, as of an uncanny particularity. He seemed to feel them as physiognomies, as presences, sometimes even as personalities; thus the state house with its golden dome seemed to him a thin, mean, stingy old woman; while Park Street Church seemed to tower as a loyal guardian above its ancient graveyard, and as friendly monitor of the crowds below. And one day as they looked at Faneuil Hall, Grandpa said of it: "The Wild Ass of the City stamps above its head but cannot break its sleep." This sound-ed thrilling and imaginary to Louis, like a wild thing out of Julia's land of enchantment; but Grandpa said he got it out of a book and that its meaning was too deep for the boy—that he was talking to himself.

Thus buildings had come to speak to Louis Sullivan in their many jargons. Some said vile things, some said prudent things, some said pompous things, but none said noble things. His history book told him that certain buildings were to be revered, but the buildings themselves did not tell him so, for he saw them with a fresh eye, an ignorant eye, an eye unprepared for sophisticates, and a mind empty of dishonesty. Nevertheless, a vague sense of doleful community among buildings slowly suffused him. They began to appear within his consciousness as a separate world in their way; a world of separated things seemed, in unison, to pass on to him a message from an unseen power. Thus immersed, he returned again and again to his wonder-building, the single one that welcomed him, the solitary one that gave out a perfume of romance, that radiated joy, that seemed fresh and full of laughter. How it gleamed and glistened in the afternoon sunlight. How beautiful were its arches, how dainty its pinnacles; how graceful the tourelle on the corner, rising as if by its own weight, higher and higher, like a lily stem, to burst at last into a wondrous cluster of flowering pinnacles and a lovely, pointed finial. Thus Louis raved. It has been often said that love is blind! If Louis chose to liken
THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

this new idol of his heart unto a certain graceful elm tree, the pulchritudinous virgin of an earlier day, surely that was his affair, not ours; for he who says that love is blind may be himself the blind—and love clairvoyant.

One day, on Commonwealth Avenue, as Louis was strolling, he saw a large man of dignified bearing, with beard, top hat, frock coat, come out of a nearby building, enter his carriage and signal the coachman to drive on. The dignity was unmistakable, all men of station in Boston were dignified; sometimes insistently so, but Louis wished to know who and what was behind the dignity. So he asked one of the workmen who said: “Why he’s the archeetect of this building.” “Yes? and what is an archeetect, the owner?” “Naw; he’s the man who drew the plans for this building.” “What! What’s that you say; drewed the plans for this building?” “Sure. He lays out the rooms on paper, then makes a picture of the front, and we do the work under our own boss, but the archeetect’s the boss of everybody.” Louis was amazed. So this was the way: The workmen stood behind their boss, their boss stood behind the archeetect—but the building stood in front of them all. He asked the man if there had been an “architect” for the Masonic Temple, and the man said: “Sure, there’s an archeetect for every building.” Louis was incredulous, but if it were true it was glorious news. How great, how wonderful a man must have been the “architect” of his beloved temple! So he asked the man how the architect made the outside of the temple and the man said: “Why, he made it out of his head; and he had books besides.” The “books besides” repelled Louis: anybody could do that; but the “made it out of his head” fascinated him.

How could a man make so beautiful a building out of his head? What a great man he must be; what a wonderful man. Then and there Louis made up his mind to become an architect and make beautiful buildings “out of his head.” He confided this resolve to the man. But the man said: “I don’t know about that. You got to know a lot first. You got to have an education. Of course we mechanics has our books too. That’s the way we lay out stairs, rails and things like that. But you got to have more brains, more experience, more education and more books, especially more books, to be an archeetect. Can yer father keep yer at school long enough?” “Yes; he says he’ll keep me at school until I’m twenty-one if I wish.” “Well, that being so, yer may stand a chance of coming out ahead, but I honestly don’t think yer have the right kind of brains. That far-away look in yer eyes makes me think love is blind may be himself the blind—and love clairvoyant.

Shortly before his father left Boston for Chicago, Louis confided to him his heart’s desire. The father seemed pleased, greatly pleased, that his son’s ambition was centering on something definite. He “allowed,” as they used to say in New England, that Architecture was a great art, the mother of all the arts, and its practice a noble profession, adding a word or two about Michael Angelo. Then he offered a counter proposal that made Louis gasp. It was none other than this: That Louis was fond of the farm and the open, that he had shown himself a natural farmer with ready mastery of detail of common farming. Why not go further. After proper preparation he would send Louis to an agricultural college, he said, and thus Louis would be equipped as a scientific farmer. Louis was dazzled. The word scientific was electrical. Before him arose the woods, the fields, the cattle, the crops, the great grand open world as a narcotic phantasm of delight. The father was eloquent concerning blooded stock, plant cross-fertilization, the chemistry of soils and fertilizers, underdrainage, and so forth; Louis waivered. He sat long in silence, on his father’s knee, lost to the world. Then he said: “NO: I have made up my mind.” And thus it was agreed that Louis should remain in Boston to complete his General Education; after that to a Technical School; and, some day—Abroad.

During the years preceding his decision, Louis, in practice, was essentially scatter-brained. His many and varied activities and preoccupations, physical, mental, emotional, his keen power of observation, his insatiable hunger for knowledge at firsthand, his temperamental responses to externals, his fleeting mystic trances, his utterly childlike flashes of intuition, his welcoming of new worlds, opening upon him one after another, his perception that they must grow larger and larger, his imagination, unknown to him as such; all these things, impenetrable to him in their vast significance within the gigantic and diverse world of men and things and thoughts and acts, a world as yet sealed tight to him; all these things seemed to exist within him formless, aimless, a disconnected miscellany rich in impulse but devoid of order, of form, of intention. Yet this was not precisely the fact. It was an ostensible fact objectively, a non-fact, subjectively; for a presiding order, a primal impulse, was governing and shaping him through his own marvel at manifestations of power, his constant wonder at what men could do; at men’s power to do what they willed to do; and
THE AUTOBIOGRAPHY OF AN IDEA

deeper than this moved a power he had heard in the Song of Spring, and which awakened within the glory of the sunrise.

All this was vague enough, to be sure, but his memory was becoming tenacious and retrospective. Little given to introspection, as such, he was in daily conduct and appearance much like any boy, though perhaps he had a more stubborn will than is usual. His aversion to schools and books had been normal enough, because they failed in appeal. Nevertheless, he began to swing around to an idea that there might be something useful to him in books, regardless of teachers; and this idea was vivified when he was transferred to the new Rice Grammer School building, the lightness and brightness and cleanliness of which put him at once in exceeding good humor.

True to form he reacted to these cheerful externals, and at once became filled with a new eagerness. A cloud seemed to pass away from his brain, a certain inhibition seemed to relax its hold upon him. As by the waving of a magic wand, he made a sudden swerve in his course, and became an earnest, almost fanatical student of books, in the light and joy of the new school house. Teachers were secondary; and in habit he became almost a recluse. For the idea had clarified that in books might be found a concentration, an increase in power: that books might be—and he later said they were—storehouses of what men had done, an explanation of their power to do, and that the specific knowledge stored within them might be used as tools of the mind, as men used tools of the hand. Louis saw consequences with extreme rapidity and daring once the first light of an initial idea broke upon him. His enthusiasms were pragmatic. He lost no time, once he had a pet aversion was old "Ironsides," and it befell him at once in exceeding good humor.

And as the end approached nearer and nearer, there came forth from the book as a living presence, as a giant from the world of enchantment, with shining visage, man's power of speech. Louis saw it all, but it left him feeble. He had taken grammar at one dose. As usual his imagination had far outpaced any possibility of reasonable accomplishment. For Louis, as usual, saw too much at one time. He saw, at a glance, ends that would require a lifetime of disciplined endeavor to reach. And so, in a measure, it was with his other studies, though not so ardent. There was little romance to be found in his arithmetic. It was in the main material and philistine. Yet he saw use in it. He accepted it as a daily task and plodded. It was not his fault but his misfortune that it was handed to him dry. Geography he took to kindly. He could visualize it as a diagram and it extended, on paper, his boundaries far and wide. Topographically and racially he could not see into it, even though he was informed, for instance, that the Japanese and Chinese were half-civilized. He asked what civilized meant and was told that we were civilized. There were various other things in the geography that were not clear; he found difficulty in making images of what he saw in the book. In his history book he was lied to shamefully, but he did not know it. Anyway, he had to take some things on faith. The history book did not interest him greatly because the people described did not seem human like the people he knew, and the story was mostly about wars. He got the idea that patriotism always meant fighting, and that the other side was always in the wrong.

As to compositions, the pupils had to write one every so often, on a given topic. The first subject for Louis was "The Battle of Hastings." He went at this dolefully, sought refuge in the encyclopedia, and in wabbly English produced a two-page essay weakly-hesitant and valueless; a mere task. He was marked low. The next subject was "A Winter Holiday in Boston." Louis filled the air with snowflakes, merry bells, laughter, movement and cross movement, amusing episodes and accidents, all joyous, all lively. In simple boyish English, he made a hearty story of it, a word-picture; yes, the suggestion even of a prose poem, for it had structure. Within it was a dominant idea of winter that conveyed a sensation of color, of form. Louis was happy. He had hard work to confine himself to four pages. He was marked high. He was commended before the class. But the topics seldom fired him; as a rule they were academic, arid, artificial, having no relation to his life experiences, concerning which he might have said something worthwhile while he had been given the chance. Another feature of the curriculum that went against the grain with Louis was the course in declamation, or "speaking pieces." For Louis had a streak of bashfulness in his make-up, which, though invisible in his former street fights, came painfully into view when he must face the class and "speak out loud." The ensuing torture of self-consciousness made him angry and rebellious. Besides, he had his opinions concerning various "pieces" and was not in the least backward in venting them. He ridiculed the "Village Blacksmith" unmercifully.

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form, faced about; and in instant desperate acrimony, he shrieked: *Ay, tear her tattered ensign down!*****
The class roared; teacher stopped him at once; sent him to his seat. She left the room. Louis boiled in his seat. In the hubbub he heard: “Now yer going to get it.” “Serves yer right.” “Yer made a fool of teacher.” “Serves yer right. Fatty’ll fix yer.” The teacher, Miss Blank, returning, stilled the storm, and said calmly: Louis Sullivan, you are wanted in Mr. Wheelock’s office. Mr. Wheelock, head master—called “Fatty” for short—was round, of middle height, kindly, with something of the cherub in his face. He wore a blond beard, had rather high color, merry blue eyes, a full forehead, sparsely covered with hair. He appeared not over thirty-five, had served in the army, and was judicial, considerate and human in his dealings.

As Louis entered he saw, not this Mr. Wheelock, but a Mr. Wheelock, gray of face, sinister of eye, holding in his left hand a long rattan. “Miss Blank tells me you have grossly insulted her before the class. What have you to say for yourself?”

Louis was fearless and aggressive by nature. He had crossed his Rubicon. He made a manly apology, wholly sincere as regarded Miss Blank. This cleared the ground but not the issue. He saw the rattan, and with steady eye and nerve he quickly wove about it his plan of action. The rod should never touch him; it showed that he regarded the poem as bunkum. Mr. Wheelock sneered. He then went on, more and more drastically. Mr. Wheelock's eyes twinkled, calm returned to his face, he dropped the rod. He laughed heartily: Where in the world did you dig that up? Then Louis let go, he waxed eloquent, he spread out his views so long suppressed, he pleaded for the open, for honesty of thought, for the lifting of a veil that hid things, for freedom of thought, for the right of interpretation, for freedom of utterance. He passionately unboomed his longings. The head master, now sitting chin in hand, looked steadily at Louis, with grave, sad face. As Louis ceased, the master remained silent for a moment, then pulled himself together, relaxed, chuckled and patting Louis on the shoulder said: “That was a pretty fine stump-speech, young man. When you got through with Holmes, you left his poem as tattered as his ensign. As for the rest: Irish accounts for that. I’m glad we had it out though. I might have thrashed you in anger. Go back to your class now, and hereafter be considerate of a woman’s feelings.” Louis returned to his room, before all the class he made full amends. Then, in his seat, he set to with a book. His plunge into grammar had not been in vain.

Thus Louis worked on and on, all by himself, as it were, digging into the solid vein of knowledge as a solitary miner digs; washing the alluvial sands of knowledge as a miner sifts—a young prospector grub-staked by an absentee provider now settled on the shores of a vast Lake far in the West.

Living again with his grandparents Louis felt at home once more. He had respite from the city bareness and baldness. He studied in the evenings, in the sitting room, unmindful of the family doings. He lost interest in playmates; waved aside all little girls as nuisances and inferior creatures—they became nonexistent. He rose early, at all seasons and in all weathers, before the family were awake, walked the mile to the depot, took the train to Boston, walked a mile to breakfast and another mile to school. Many a night he was awakened by the rattling sash, and listened to the sharp wind moaning, groaning, shrieking, whistling through the crevices with many a siren rise and fall, from the depths of sorrow to the heights of madness, from double forte to pianissimo as this weird orchestra of the countryside lulled him again to sleep. And many a morning, in pitch darkness, he lit his little lamp, broke the skin of ice at the pitcher’s top, washed in arctic waters, donned his clothing, neatly folded over a chair as grandmamma had taught him—his stockings even, carefully turned in for orderliness, then left the house still in darkness and silence, to break his way, it may be, through fresh-fallen snow, knee-deep on the level, and as yet without a trail, his woolen cap drawn down, his woolen mittens well on, his books bound with a leather strap, held snug under the arm of his pea-jacket as the dim light at the depot shone nearer, and a distant double-toot announced the oncoming train, and the blinding headlight that shortly roared into view as he stood, waiting, on the platform.

Yet this was not heroism, but routine. It was an accepted part of the day’s doings, accepted without a murmur of other thought in days long since gone by.

Thus Louis worked, in glutinous introspection, as one with a fixed idea, an unalterable purpose, whose goal lay beyond the rim of his horizon, and beyond the narrow confines of the casual and sterile thought of the day. Hence Louis was bound to graduate with honors, as he did, the following June of 1870. There and then he received in pride, as a scholar, his first and last diploma. Never thereafter did he regard life with the gravity, the seriousness and the futility of a cloistered monk. That summer, he spent part of vacation time on the farm, and part of it within the primeval forest of Brown’s Track in the northern part of the State of New York. On his return to Boston in September, he passed the examinations, and at the age of fourteen entered the English High School, in Bedford Street—there to expand.

*(To be continued)*
 WHEN S. Louis invited his cousin Ferdinand to join him in a Crusade, and the King of Castile replied that he had a complete crusade at home functioning actively, it was no more than truth. Spaniards of the thirteenth century enjoyed all the advantages, in culture as well as morale, in worldly as well as spiritual benefits, that Frenchmen were to acquire in Syria by the intercourse with an alien race in no way inferior, highly civilized, disciplined, intellectual and exquisite, equally apt for poetry and medicine, for philosophy and military architecture. The Frankish castles in Syria supplied the models not only for Templars and Teutonic Knights when they were surrendered and the Europeans expelled, but for the feudal lords of northern and of southern France, and possibly in Navarre and Aragon.

It is probable, however, that in Castile and Andalusia the building tradition was earlier formed on Oriental models and persisted unaltered down to the Renaissance; and this may be true also on the east coast and the Cantabrian shore, in Galicia and the Asturias. In the wars of the Peninsula, Spanish castles were ruined so often and rebuilt up to so late an epoch that trustworthy dates are very hard to come by; yet a little evidence exists, partly historical but partly direct also. In those parts where the Spanish race is purest, and the tradition, Visigothic and Mohammedan, least contaminated by alien occupations and by foreign alliances of the reconquering kings, the earliest medieval castles are quite unlike those of the northern peoples.

In France and England the first castles consisted of a ditch, a mound, and a keep, concentric and superimposed; only after the Crusaders' return were they changed into such gallant conceptions of lovely contours, and learned massing of strength and tension, as appeared when Coeur-de-Lion built Château Gaillard in 1196; and never, even in the Renaissance, did they quite unlearn the grim custom of the donjon. On anyone looking over plates of English and French castles the conviction is impressed that the main element of them is the great tower. With Syrian castles this is hardly true; at that called Karak of the Knights, or at Castle Pilgrim, or at Karak the Stone of the Desert, it is hard to make out the keep among the mighty towers that rise within the double circuit of defense. The plan of these Crusaders' castles clings to the hill-top that they crown, as the Byzantine and Arab architects since Justinian's day had preferred to set their own.

It is with the building of Justinian that any serious study of Spanish castles will have to begin. The Emperor was an untiring builder, in Constantinople as in the provinces, and to the farthest outlying frontiers he sent his architects, from Ctesiphon to Cadiz. Drawn from Hellenistic Asia, his military and hydraulic engineers were the finest the world had ever known. All along the north of Africa we may see his castles, built four-square with square corner-towers, or round towers sometimes instead; and sometimes round and square towers midway the curtain wall. They are dated by inscriptions. Justinian and the emperors who followed him held the entire south of Spain from A.D. 554 onward to 624, at the height of the building age, when S. Sophia was rising; and the Visigoths as they slowly won the south took over the architecture, like the decoration, which they found there. When, nearly a century later, the Moslem invasion broke over Spain, and the Visigoths were driven back, past the Tagus, past the Duero, past the mountains of Leon, to a refuge beyond the Asturian highlands, upon the northern shore, they carried thither neither more nor less than what was in their heads: a Byzantine-imperial tradition of building churches, a Byzantine-imperial tradition of building strongholds.

The wide region known as Campos de los Godos was, as the name tells, won back early in the Reconquest. It lies, roughly speaking, between the mountains of Leon and the Duero valley, and between the old Road which runs from Medina to Burgos and that, just as old, which runs from Zamora to Astorga. The wide plain may be measured, more exactly, from Rio Pisuerga to the Sil. For many centuries these fields have been fought over—by the warring children of Ferdinand the Great, by the successors of Alfonso VI, the enemies of Alfonso IX, and, lastly, by the Communes when they rose against an alien in the time of Charles V. Burned and rebuilt more often than any historian can say, the castles of that region still keep as Byzantine traits, recognizable through all alteration, the square plan and the absence of a central keep. Aguilar de Campó lies now ruinous on the steep hill-top, with four huge, round towers challenging the four winds. A long spur reaches down where the incline is least; round towers flank the curtain that culminates in a larger one, somewhat as at Peñafiel. But of a keep there is no trace; no more than at Gastal or Timgad in the African highlands. So the castle of Montalegre shows four square towers tangential to the corners and round towers midway the curtain. It was besieged in 1216 and built in 1469, says the historian; who shall say when first built, by what Ordoño or Veremund or Froila, with what clear or dreamy recollection of his ancestors'
The Moslems who entered Spain before the first century of the Hegira had ended may have brought their own builders; or they may have sent back, as time went on, to Damascus or Bagdad, or Babylon or Egypt. Their style in military architecture is marked, in such late castles as have survived for study, by the multitude of towers that rise along the hill-crests they selected, and guard the curtain walls by their command of flanking fire; by their irregular outline; by their complicated approaches, and their underground cisterns and store-houses. How much of their own skill must be set down as debt to Byzance, is not here the question, but it would be doubtless the lion's share. At any rate, they built quickly and well. In 761, just half a century after the death of Roderick, Toledo was well fortified, with new-made walls and towers; anon Abderrahman II had the walls and strongholds of Merida repaired by Giufar ben Muhasin, the chief of the architects, and in 981 Fatho ben Ybrahim the Omayad, famous for his wisdom and his numerous journeys to the East, fortified, or enlarged, the fortifications of the castle of Maqueda on the Tagus. There a great battle was fought in 1013, and the Vali of Toledo, Obeyd Ala, was defeated by his rightful lord the king of Cordova; there in 1083 to Alfonso VI was surrendered all the domain.

The Military Orders have always played a part in castle-building: the Templars in their turn had fetched their plan and their square towers from the East and built superbly, for instance at Ponferrada in the Vierzo; the Knights of Calatrava carried with them the pure Cistercian early Gothic: for instance, to the mother-house that bears their name, below Ciudad Real. But all the time, on just the other side of an imaginary shifting line of frontier that waxed and waned with the seasons and the campaigns, abode the Moslem builders. They reared fair and rosy their delicate brick towers in squares or octagons, they corbelled out the chemin de ronde on arches along the inner face of the wall—as was indeed recommended by Philo of Byzance—they set no machicoulis to overhang but they capped the battlements with a dainty pyramidal cresting.

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Above Cordova on the river, where Roman pottery and Visigothic metal yet turn up under the spade to attest earlier occupation, they built a castle which was to serve the King D. Pedro in the eleventh century for his treasury, and a Spanish noble in the twentieth for his toy; it is called Almodovar del Rio. The ascent thereto is steep and difficult; the towers therein are solid up to the level of the inner ward, the chemin de ronde runs through them, higher up; the keep is set apart and connected only by a light bridge at the same level. The vaults were of brick and domical or cut-stone, eight-sided cloistered vaults on squinches, or, in the upper chamber of the keep, a true ribbed dome carried on angle-arches after the manner invented by Sassanians and employed by provincials throughout the nearer East. It has been restored now, and the tourist who stops at Cordova may see it for his pains.

Rather like in effect, when the turban nodded in both, will have been the stronghold of Alcalá de Guadaira, built by Abu Yacub in 1172, surrendered to S. Ferdinand in 1246, and rebuilt and altered by the Christian conquerors, who added a mighty keep where the hill-top breaks down to the stream and encloses it in a descending series of wards and barbicans. They dedicated a church, too, where the mosque had stood, as may be known by the broadish square plan of the chapel of S. Michael, and its minaret-belfrey, close behind the castle on the utmost hill-top crest. To the siege of the little city in the fifteenth century, Mosen Diego de Valera devotes a chapter, nor was it the least of the Divers Feats he celebrates in his Memorial. Fernan Darias de Sayavedra held the castle for the Marquis of Cadiz, and thence harried Seville, where the Duke of Medina Sidonia lay. "So the Duke be-stirred him to gather a great company of men, saying that he wanted to go to Xeres, and as Alcalá be only two leagues from Seville he bid fetch out his lombards (which are great guns) and ponies (which I take to be like mortars) and catapults and various rams and all the other things needful to fight, and went to be-leauser Alcalá de Guadaira with about 3000 horse and 8000 foot. The Marquis hearing this wrote to his friends and came up, so that in truth on one side or the other were arrayed the greater part of the noble gentry of Andalusia." And this complicates the situation. There is a moment in the story when treason was smoking like flax where a spark lies: a Commander of S. James called Mosqueeira was the retainer of the Master of that Order, D. Juan Pacheco, who would have been glad had the city not been taken. "Mos-queeira, feigning a wound from the hand of the Duke's gunner Master Alonso, stabbed him, as he was about to fire a great lombard, which when the Duke heard, though not naturally inclined to cruelty, he was so wroth that he laid hand on his sword and ran him through." His death upset all the plans. The outcome was that the two principals, with three retainers each and without arms, were locked into the little castle of Marchenilla near by, there to stay till they agreed: which is one way of conducting arbitration. Alcalá is
too old for sieges now; the outer walls are gone, where stubble gilds the plain, and where, within, the wavy grass is tall, the broken vaulting above aljibe and granary wants wary walking. The river brink is terraced for vine-garth and oliveyard, where through the red earth the outcrop of brick and stamped clay is like a redder rock, timeless and forgotten. To the upper town the steep street goes up too steep for carriage or motor-car, as clean as if men walked there only on Sabbath days; the murmuring mosque is a hushed and twilight chapel, where, on the retable, perishing colors are crimson and azure still, and the tarnished gilding glimmers in the afternoon light from the rarely-opened door. The lower town is filled with the soft throbbing purr of mill-stones and the creaking wheels of the patient mules, for the finest bread in the world is baked at Alcalá, of flour they have grown, ground, bolted and sifted, and the Psalmist's blessing is fulfilled upon; the place, where the low, winter sun lies long and the towers hang filmy above the brimming pools.

Those towers that the Moslem builded yet crown the Alhambra hill; and he worked on through the centuries, in Andalusia, till the Alhambra fell. One Master Mohammed a Moor planned and directed the castle of Carpio on the Guadalquivir, and his head-workman who saw it finished in 1325 was called Ruy Cil, who by his name would seem to have been a baptized Moor. In 1477 Mohammed Aguado was master mason of the Alcazars of Seville—but the old story at Seville, how King Peter built a pleasure palace for Maria de Padilla whom he loved, is another story. Spain was still in touch with the East; in that same year of 1477 an Alexandrian called Statius built the mole at Barcelona, and when storms prevented its completion the city officers and the Chamber of Commerce took council together with the best architects that were to be found in Syracuse and Rhodes and Crete. Between Justinian's veterans in the seventh century and the divided caliphates in the eleventh, between the Latin despots of the East in the thirteenth and the merchant princes of Barcelona in the fifteenth, there is no break.

At moments the trail is crossed by Italian or French builders; indeed yet they do not divert the course of things so much as might have been expected. When the castle of La Calahorra was erected in the sixteenth century and decorated in the best Genoese style, the four-square plan, the round angle-towers, are traditional, and only the incorporation of the great stair in the ensemble of the central court, is foreign and unparalleled. It is barely conceivable that a French château inspired the plan of the beautiful castle of Belmonte, not very far from Cuenca, begun in 1455 and finished in 1470, by the Master of Santiago, D. Juan Pancheco. While the site may have fortified long before, certainly the pentagonal plan was conceived by the Renaissance spirit, and bespeaks the caprice of a wanton noble or the experiment of a curious engineer. Here, by the riverside under its shadow, was born, of gentle blood, though not, as often alleged, of the great lineage of Ponce de Leon, the gracious youth who was to be a glory in the Augustinian Order and at the University of Salamanca as Fray Luis de Leon. The hill with its ruins belonged latterly, I believe, by right of inheritance, to the late Empress Eugénie; I do not know to whom she has left it, but perhaps it is the Institute of Valencia de Don Juan. That delightful body, a sort of intellectual hospice for poor scholars and the home of recondite and adorable learning, already possesses by an inheritance legitimate and direct the superb ruins, in the west, of the castle of Valencia de Don Juan.

While, as in Syria, some castles followed the form of the hill-top in Castile, of which the finest instance is Peñafiel, yet alongside the quadrilateral form persisted. The double and triple enclosure, learned from the East, was rarely omitted. Those walls which the traveller from the train may see, pausing at the junction of Medina del Campó, belong to the outer line of defense on the plan published here; beyond them lies the moat, in which a pier supported the drawbridge when lowered, and a lower enceinte defended this in turn, while the castle proper not only overlooked the

¹For Granada see February, 1919.

³For Peñafiel see November, 1921.
rest but rose within a short bowshot, close enough to help in the first defense: all this still in accordance with the Byzantine rule. Eastern also is the depth of the moat and the marked battering of the wall that rises from it. The keep differs from that at Peñafiel, for instance, and most others, not only by its own position but in the placing of the turrets,—not, here, set on the angles and mid-way intermediate but flanking the corners in pairs that show the angle between.

Standing on a main road, commanding a great city, and a huge annual fair, this castle is probably older than our history of it. Built in the twelfth century, it keeps of that age no architectural remnant. It keeps, however, a good story how a peasant proprietor was accused to the king of coining money and showed that it was only diligence and good management which brought in the wealth, then, being justified, asked leave to spend the wealth in building up the great
castle. Fernando Carreño in 1440 was erecting the present one, and in 1479 Alonso Nieto was Master of the Works of the Castle and Town. Le Mota de Medina, it is called, like La Mota del Marqués which lies westward from Valladolid: the word (which signifies a mound) is the same as the French motte and the English mote and moat, and possibly lies back of Mariana's “moated grange.” The site, however, has but little eminence and that probably natural, being on the river's bank. Few travellers have done better than stop over between trains, yet Medina repays attention.

The wind that blows across the Castilian plain turned up the poplars' leaves all silver in the quiet light and shook a few stubble stalks: it came out of the infinite far, as though it had never stopped blowing since the creation of the world. Bounded by slopes like the flanks of great creatures, purply in the shadow, tawny on the sunward side, the castle rose up, pale against the pallid sky.

A national monument now, locked up and inaccessible at the irrational hours of the sentimental wanderer, it is still a sort of museum or pantheon of memories. Good Queen Isabel loved it well, and set the arms of the Catholic Kings on the portal. Here in November of 1503 the poor princess Doña Juana was in residence; and, being bent to follow her, worthless Philip the Handsome came down as far as the gate-house, but the sentry would not let her by. The Bishop of Burgos and the lords who had her safety in charge raised the drawbridge and dropped portcullis, but if she could not go out she would not go back, and for three days and nights the poor distracted lady stood out in the wind and weather, leaning at times against the wall in the embrasure, not eating and not listening. Isabel found her there, being fetched post-haste from Segovia, and took her upstairs and put her to bed like the loving mother that she was; but Isabel's years were already counted. Here she died in 1504. For Queen Joan, Tordesillas was worse than Medina. Rebellious nobles had often held the castle, then with the turn of the wheel the Archbishop D. Pedro Tenorio had it for his prison: so had Caesar Borgia, who contrived a romantic escape in 1506 but broke a leg forby, whereof he shortly died. Another prisoner was a Marquis of Coria, D. Enrique de Toledo, held for burlador de damas (as a deceiver of ladies), like D. Juan Tenorio. Here were lodged the gentlemen who arranged the ransom of François I, and they doubtless felt as much like prisoners as the rest. Here too for twenty years was kept Hernando Pizzaro, the brother of the great Conquistador, a close prisoner, accused of cruelty in the new dominion: his character was cleared at last, but by then his day was come to the closing. Yet it was a proud hold, independent of Church and State: Ni el Rey offici en el Papa beneficio, says the shield; and in the Comuneros' rising it was held for the town while arms and men as many as might be spared were despatched to help in Segovia the gallant Juan Bravo and the cause of liberty.

These ghosts walked the pale ramparts one August eve: the sky was amber of grape and silvery purple like the bloom of a plum. No green showed anywhere, only an ashen-colored earth and amber-colored slopes, waiting till a moon should rise.
AMERICAN ACADEMY IN ROME

The Winning Designs in the Competition for the 1922 Collaborative Prize Offered by the American Institute of Architects (See Page 399)
THE DOME OF ST. PETER'S, AS EXECUTED
MICHELANGELO'S MODEL OF THE DOME OF ST. PETER'S
Comparative Notes on the Dome of St. Peter's and the Original Model by Michelangelo

By VICTOR L. S. HAFNER
Fellow of the American Academy in Rome in Architecture

The scholar or tourist who has seen, in Rome, the original model of the dome of St. Peter's by Michelangelo and who has compared it with the dome as it exists today cannot but feel that steps should be taken to complete the dome as originally intended by the master architect.

About the year 1547 Michelangelo Buonarroti was appointed architect-in-chief of the Cathedral of St. Peter's. On taking this office he found the state of affairs at the building quite serious, and his first duties were to free the church and himself from the clique of unscrupulous contractors and inferior workmen, who were parasites in the very vitals of the work. His predecessors as early as Bramante's time encountered these individuals and money had been misappropriated by many fraudulent devices. San Gallo had not the force of character or strength of mind to arrest these conditions. Michelangelo made his position sure by refusing all payments for his services. This enabled him to use a strong hand in checking dishonesty and eliminating many lazy workmen. Naturally, these measures made many enemies. The workmen immediately appointed a committee of deputies to protest to the Pope and to check Michelangelo. He termed them "Setta San Gallesca," and showed his shrewdness by keeping the injured officials in darkness as to his plan, giving information from day to day only as the work progressed. This continued until the year 1557. The committee of deputies appointed Nanni di Baccio Bigio, an incompetent architect, an enemy of Michelangelo, as spokesman. The Pope received the committee and appointed a relative to investigate their grievances. There was nothing to report against Michelangelo's actions, who, however, tendered his resignation, which the Pope wisely refused. In 1559 Pius IV strictly forbade any changes from Michelangiolo's designs. This was the condition the new architect had to meet on entering the office of architect-in-chief of St. Peter's and is the reason for the model which proved such a help to the subsequent architects who carried out the original designs.

When Michelangelo had reached the sublime age of 82, his friends, Cardinal of Capri Donato Giannotti Lottino, Tommaseo Cavaleri, and Francesco Bandini, advised him to have a model prepared so that, in case of his death, his work would be continued as he intended. (If only Michelangiolo intended it.) This we know to be the case from the following letter written to his nephew:

From Rome, 13 February, 1557.
To LEONARDO DI BUONARROTO SIMONI in Florence:

"When, about two years ago, Messer Leonardo, a servitor of the Duke of Florence, came to visit me here in Rome, he told me His Lordship would have been greatly pleased if I had then returned to Florence, and held out many inducements in the name of the Duke. I replied that I begged His Lordship to grant me sufficient time to enable me to leave the fabric of St. Peter's in such a condition that it could not be altered by the substitution of any other design for my own. As I heard nothing more about the matter I proceeded with the said work, but it has not yet reached the desired condition; and not only that, but I am obliged now to construct a large wooden model of the dome and lantern so as to show the exact manner in which it is to be finished. All Rome has asked me to do this, the Reverend Cardinal di Capri especially, and I estimate that it will keep me in Rome for another year; at least I entreat the Duke for the love of God and St. Peter to grant me this delay so that I may come back to Florence freed from this haunting thought, and feeling that I shall never be obliged to return to Rome again. With reference to the work having been stopped, this is not true, for between masons, bricklayers and laborers, there are still sixty men at work, as may readily be seen, with good hope of continuing. I wish thee to read this letter to the Duke and to beg His Lordship on my behalf to allow me to remain here for the period already mentioned, which will be necessary before I can return to Florence; for, if my dispositions now incorporated in the structure were to be changed, which certain envious persons here seek to compass, it would be as though in all this time I had accomplished nothing."

MICHELANGELO BUONARROTO.

The model was a year in construction and we are told that a certain Giovanni Franzese is responsible for this work. (Vasari speaks of him as Jean: Vasari XII 252, 253). It measures 12 feet 6 inches in diameter by 20 feet in height. This model has fortunately come down to us practically intact and now rests in a room over the left aisle of St. Peter's Cathedral. It is soon to be moved, however, to a new museum under construction and adjacent to the Cathedral. I have carefully measured the model and shall reproduce it exactly, and I hope that my reproduction will be permanently exhibited in a museum in the United States. Thus, thanks to Cardinal of Capri and his friends, the world has now among its collections of many domes the finest example ever created by the human mind. Still, it is not yet complete as Michelangiolo intended it.

By looking at the two photographs accompanying this article, it will be noted that several changes took place even in the time of the great architect, for it is known that the dome had reached the height of the cornice of the buttresses at the time of his death (1564). One will notice that he varied the window heads between the buttresses. In the model they are all pedimental, whereas in the actual dome they are alternately pedimental and segmental. Other changes took place in the detail of the festoons and in the insertion of the lion heads above the swags. In addition the detail of the leaves of the corinthian capitals is much more ornamental on the dome than in the model.
THE DOME OF ST. PETER'S IN ROME
A—Contour of the Model
B—Contour of the Existing Dome
Cooperative Housing

By FREDERICK L. ACKERMAN

Cooperative housing has become a commonplace. That is to say, readers of the daily press (New York) have come to be familiar with the term. News items and the advertising columns carry information; salesmen will call upon request to furnish further details and initiate. So to understand "cooperation" one need no longer consult the volumes written about it by its friends. Debate concerning these points could at best only lead to academic classification. For these enterprises have all been classified in popular opinion, thanks to the news items and the advertising matter in the press. So that the point of interest here is not what these advertised undertakings should be called, but what has "cooperative housing" come to mean to those who read and so become cooperators.

During the decade before the war a few cooperative housing enterprises were launched under the handicap of hostile opinion. The legal profession, for the most part, viewed such undertakings as extremely precarious ventures. Real estate interests and speculative builders could forecast nothing but disaster to those who so invested their savings. And what, above all, stood to render the launching of such undertakings extremely difficult was the re-

Undoubtedly it was the coincidence of a purpose to secure those pecuniary gains
which had ordinarily accrued to the landlord. That is to say, buildings were designed to be occupied only in part by the cooperators. One-half or two-thirds of a building was designed for the use of tenants who would, it was hoped, pay enough rent to cover the operating expenses and the fixed charges. Typically a "successful" undertaking was one in which the cooperator's rent was no more than the calculated interest upon the equity which he had originally put in. So that in a successful undertaking, heat, light, and sundry services came free or nearly free to the cooperators in the case.

Hence one may fairly conclude that what served to make the launching of these early cooperative undertakings possible under the reign of doubt and suspicion—sustained by the viewpoint of the legal advisors who drew up the articles of incorporation, the lenders of money and the cooperators themselves—was the prospect of profit. Failure to charge such rents to the tenant as would cover fixed charges and operation was sufficient to characterize an undertaking as a failure. It is not, therefore, to be concluded that these pre-war cooperative enterprises differed in any essential, with respect to aim, from enterprises launched by speculative builders whose purpose was profit.

Out of the years of war there developed a still greater shortage of houses touching other than the "workers." Rents soared; signs of distress appeared in plain view. The cost of building reached a point where it was obvious that sufficient income from rents could not be secured to justify production. Nothing but loss was in sight for the builders of habitations. And the rent laws (New York) served to throw the ownership of habitations to the cooperators in the case. Hence one may fairly conclude that what served to make the launching of these early cooperative undertakings possible under the reign of doubt and suspicion—sustained by the viewpoint of the legal advisors who drew up the articles of incorporation, the lenders of money and the cooperators themselves—was the prospect of profit. Failure to charge such rents to the tenant as would cover fixed charges and operation was sufficient to characterize an undertaking as a failure. It is not, therefore, to be concluded that these pre-war cooperative enterprises differed in any essential, with respect to aim, from enterprises launched by speculative builders whose purpose was profit.

In popular opinion, these pre-war and post-war enterprises are "cooperative." The latter differs from the former in that, typically, they offer no prospect of profit consequent upon ownership; all occupants are owners who assume the obligation to pay the operating costs, the fixed charges, and the cost of management during the period of payment or amortization.

It is said, and it is no doubt true, that for the time being, the tenant owner secures more for what he pays than does the tenant who does not own. And so the gains are credited to "cooperation." But neither the gains nor the enterprise itself may be referred to as the outcome of "cooperative" effort.

For it is not to be overlooked that these enterprises grew out of the prospect of profit to be secured by the promoters by resort to the time-worn methods of business traffic. Initiative in the case arose out of the need to "do business." To do business in this case was largely a matter of engaging in building without assuming the risks of ownership which had fallen into a precarious state. And all this took place by reason of the condition under which the time-worn methods of business traffic had hopelessly failed to provide houses.

What, then, emerges as of interest in what has taken place is this failure and the hatching out of new methods of business traffic under the wing of cooperation. The enterprises are known as cooperative; and certain gains are apparent. This may suggest that, by extending the field of cooperation, further gains may be secured. But in this connection it should be pointed out that the cooperator has gained no experience in cooperating. His function in the case has been that of the investor who buys that which the professional investor had refused to take. The cooperator merely acted in response to the exigencies of the situation—that is all. So that it does not follow that a system of cooperation is likely to grow out of these experiences.

It may be pointed out that we are here dealing with but an insignificant sector of the field of action; that initiative in cooperation is not likely to spring from such as become tenant owners in enterprises of the type referred to above; that cooperative action will develop out of the activities and experiences of labor—trade unionists. In connection with the latter assumption it is taken more or
less for granted that cooperation will consist of something more than the name implies; it will also be in the nature of a businesslike manoeuvre—a flanking movement with respect to the financial interests as now constituted.

All of these assumptions on the part of those who set store by cooperation rest upon a further assumption that labor—the trade unionist in particular—is guided in action by a point of view completely at variance with that which underlies the business situation. That is to say, it is assumed that a lifelong experience, under conditions enforced by the machine process and given over largely to businesslike dealings with business men over conditions of work, wages and hours, has had no effect upon the workmen. He is conceived, both by his friends and others, to occupy a somewhat exposed position well outside the frontiers of the happy land of business promise.

But to assume that such a lifelong experience in businesslike bickering with business men has left no trace upon the outlook and the aims of the workman is to ignore the most obvious characteristics of the present situation. More and more the time-worn methods of business traffic are being adopted by workmen; and businesslike methods make for a single objective, the main chance. Pursuit of the main chance may require what we refer to as collective action; but it does not follow that the outcome will be cooperation. Indeed, there is now little to indicate that the outlook of the workman as expressed by himself or by his representatives in trade unions differs in any essential from the outlook of the businessman who goes to his work with this end in view. To this broad statement there follow certain qualifications, of course. There are individuals and groups who have not taken over the outlook of businessmen and who, as a consequence, hare other ends in view. But what has been said is substantially true of the larger labor groups whose outlook is said to account for most of our woes.

So it appears that the friends of cooperation have, for the time being, no more than an extremely weak foundation upon which to build a system of cooperation. For activity—initiative—without promise of pecuniary profit would seem to require a compelling, workmanlike interest surrounding the thing to be done. And the signs about us indicate that a compelling workmanlike interest in the thing to be done has fallen into decay. Which is to say that a system of cooperation, or cooperative housing, as formulated by its friends is not likely to take effect in advance of the decay of business traffic. So the friends of cooperation need not lose hope—not altogether.

Community Planning and Housing

By CLARENCE S. STEIN

Land Studies in New York City

Although hundreds of books and pamphlets have been published dealing with the problem of land values very little statistical data is available giving the facts with any substantial degree of accuracy or in sufficient detail.

The published figures setting forth the value of farm and city lands are inaccurate and unreliable. But even if this were not the case the available data would be of very little use because of its failure to supply certain detailed information without which the bare statement of market values would mean very little. Let us take, for example, statistics of farm land. The figures purport to separate the value of the land from the value of improvements, yet the only improvements which are classified as such are buildings. But the work done upon the soil to fit it for agricultural purposes, the construction of fences, roads, wells, irrigation ditches, etc., all these things are improvements just as much as the erection of a building. We know that the cost of these items is very great but there is no data available to show what the actual cost has been. Nor is there any way of telling what is the relationship between the market value of farm land and the cost of making it available for use.

In city land, also, many factors are included which have never been properly separated or studied. The subject is one of such great importance that it seems strange that there should be so little available data, and yet it is a fact that practically no reliable statistics are available by which a complete picture of the costs and values of urban land can be obtained: The material at hand consists principally of the assessment rolls of city tax departments. Until recently it was the practice to assess land together with improvements (buildings) without separating the one from the other; now, many of our cities have adopted the more helpful plan of assessing land and buildings separately. But the assessment rolls of themselves are not very enlightening because the assessed value has seldom been the actual value. To make matters worse, the practice of assessors has varied from year to year; that is to say, the assessment rolls in different years have represented varying percentages of the actual value and these percentages have varied in a given year for different localities and for different kinds of property. It is, therefore, a task of some difficulty to correct the assessment rolls in order to make them represent more clearly the actual market value of the property. But after we have accomplished this task a very much harder one awaits us. Just as in case of farm lands, a bare statement of market value failed to indicate improvements, so in the case of city land it is necessary to separate market value into the elements which have produced it. Thus the opening of streets and the installation of public utilities are usually paid for by the owner of the land. To build a sewer is as much an “improvement” to the land as to build a house. But the sewer is underground; it serves not only one parcel of land but many. Once installed it is never regarded as an “improvement.” The value which it adds to the land becomes land value and as such it is assessed by the city. Another one of the hitherto un-
COMMUNITY PLANNING AND HOUSING

studied elements of land value has been described by Professor Ely as the "ripening" value of land. In a city like New York it is quite obvious that certain sections should be restricted for particular uses and that a substantial amount of vacant land should be at all times available for improvement. If this were not the case owners of land that is immediately usable would be in a position to extort monopoly prices from prospective home builders. It is quite impossible to gauge, with any degree of accuracy, the amount of land which will be needed from year to year. When a considerable tract is developed, with street improvements, etc., there is an unavoidable lapse of time between the placing of the land upon the market and its complete development. During this time carrying charges accrue and must be paid for by somebody. A certain expense for this so-called "ripening" is as unavoidable as the cost of street improvements. On the other hand, nothing could be more wasteful than the practice in which all American cities have indulged of cutting up into building lots large areas of farm land long before there was any possibility of their use for building purposes and the sale of this land to investors, builders or real estate speculators, who were forced to hold the land for a long period of years because of the excessive number of building lots which had been developed.

What are the facts in any large community? Is the promiscuous sale of housing lots at auction socially desirable? These lots are usually sold to workers of small means who are seldom in a position actually to improve their land with a home but who hope to do so at a future time and who believe that the purchase of a home site will prove a desirable and profitable investment. What has been the experience of such purchasers? What is the relationship between market value of land and the cost of developing it? What happens when land is held vacant and gradually increases in value as a city grows up around it? What is the cost to the owner in assessments, taxes and interest? This is the type of question which the available data does not permit us to answer. Realizing the importance of knowing the facts, a committee of men interested in social questions and especially in housing undertook about a year and a half ago to investigate certain aspects of land values in the city of New York. A statistician and an assistant were employed for more than a year studying the records of the register's office and the tax department. A full account of this investigation appeared in the August number of the Quarterly Journal of Economics. The purpose of this article is to give a brief account of the results of the investigation together with some of the statistical tables.

The writer realizes that this study must be taken only for what it is worth. It applies to only one city; most of the study covers only a limited number of pieces of real estate. That part which covers the entire city does so for a period of less than twenty years. No final conclusions can be drawn from so limited an investigation. It is hoped, however, that similar studies will be made in the City of New York as well as elsewhere; and in the meantime, the results of the investigation are submitted for whatever light they may throw upon the problem and in the hope that they will stimulate others to undertake similar research.

The investigation consisted of a study of the costs and market value—over a period of years—of various plots of land in New York City and—for a shorter period—of all the land in the different boroughs of the city, as well as an investigation into the value of land sold at auction approximately fifteen years ago and the relation between its present cost, including accumulated interest and taxes, and its present market value. The land studied was chosen more or less at random from pieces suggested by different members of the committee. The parcels of land were selected as samples of what was taking place all over the city. The amount of labor involved in each study was so great as to make the sampling method the only one practicable.

The market value of the land at the time from which the investigation started was fixed by the expressed consideration in deeds of executors or trustees or by public auction sales, etc. In order to determine the market value of the property in any subsequent year, tests were made of the relationship between the assessed value of approximately two hundred different parcels of real estate in that year and their actual market value as determined by executor's or trustee's deeds (in which consideration was expressed). Forced sales in partition or foreclosure were eliminated. In this manner the average ratio between assessed value and actual value was determined. It was assumed that this average applied to the parcels under consideration and the market value was determined accordingly.

The elements of costs which were computed were taxes, assessments, interest on investment and interest on taxes and assessments. It was assumed that if any part of the land was improved the income from the improvement would take care of the carrying charges. From the time that such improvement was made no further interest or taxes were charged. In all cases, however, assessments—whether the property was improved or not—were added to cost, as these are capital charges which are not covered by ordinary income. In calculating interest, the rate used was 4 per cent compounded, in order to put the owner of the land in the position in which he would have been, if, instead of buying land, he had put his money in a savings bank. It is realized that both the rate of interest and compounding it are open to question. On the one hand the rate is too low; most parcels of vacant land carry mortgages which bear an interest rate of 6 per cent and the owner of equity will certainly expect a return at least equal to that of the holder of the first mortgage. On the other hand, it may be questioned whether in a study of this kind it is proper to compound interest. The course which was adopted seemed conservative because it merely placed the purchaser of vacant land in the position in which he would have been if he had made so safe a use of his money as to place it in a savings bank.

In the tables which are given below the different items

1The membership of the committee was as follows: Frederick L. Ackerman, Alexander M. Bing, Richard S. Childs, Prof. Robert M. Haig, Robert D. Kohn, Lawman Purdy, Robert E. Simon, Clarence Stein, Herbert S. Swann, Graham R. Taylor, Charles H. Whistaker.
are separated. This enables the reader not only to see at a glance the relative importance of each but to eliminate an item if he sees fit to do so. Irrespective of the social usefulness or disusefulness of holding vacant land, and consequently of the right of the holder to be compensated by receiving interest on his investment, it is both interesting and important to know what the total cost is. Taxes and assessments are both paid to the city and are in a different category. The taxes which any individual pays depend, for their amount, upon the taxes which are paid by every other individual. If no taxes were paid upon vacant land the tax rate would be correspondingly higher on property that was improved. So with assessments. If a sewer, or street opening or a park is not paid for by assessment against the property benefited, then the city must raise the cost of such improvement by general taxation, thus increasing the tax rate on the rest of the property in the city. A distinction must, therefore, be made between the expense items of interest on investment and those of taxes and assessments. In the one case, the owner of the land may or may not be performing a social service by merely holding the land. In the other case, the paying of taxes and assessments are by that much a direct reduction of the taxes of the rest of the city.

In the cost of these assessments, as well as in all the services for which taxes are levied, the element of land value enters. No effort has been made to estimate the importance of this factor, nor can it be estimated.

### Table I—Vacant Land, Manhattan

<table>
<thead>
<tr>
<th>Base Year</th>
<th>Value in Base Year</th>
<th>Taxes on Vacant Land</th>
<th>Special Assessments</th>
<th>4% Compound Interest on Base Value</th>
<th>4% Compound Interest on Taxes</th>
<th>4% Compound Interest on Special Assessments</th>
<th>Total Cost</th>
<th>Value 1921</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 14th Street, near Fifth Avenue</td>
<td>1840 Est.</td>
<td>$60,000</td>
<td>$385,881</td>
<td>$5,072</td>
<td>$1,102,209</td>
<td>$749,234</td>
<td>$33,614</td>
<td>$2,336,010</td>
</tr>
<tr>
<td>2. Fifth Avenue and 39th Street</td>
<td>1845 Sale</td>
<td>3,000</td>
<td>311,781</td>
<td>1,031</td>
<td>56,109</td>
<td>290,552</td>
<td>8,487</td>
<td>670,960</td>
</tr>
<tr>
<td>3. Fifth Avenue and 73rd Street</td>
<td>1866 Sale</td>
<td>82,300</td>
<td>320,741</td>
<td>3,337</td>
<td>611,189</td>
<td>335,523</td>
<td>18,568</td>
<td>1,391,858</td>
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<td>4. Fifth Avenue and 75th Street</td>
<td>1860 Sale</td>
<td>20,000</td>
<td>202,683</td>
<td>1,664</td>
<td>198,720</td>
<td>214,610</td>
<td>10,784</td>
<td>649,481</td>
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<td>5. Fifth Avenue and 95th Street</td>
<td>1856 Sale</td>
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<td>301,147</td>
<td>10,355</td>
<td>132,617</td>
<td>320,994</td>
<td>47,161</td>
<td>825,674</td>
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<td>6. Fifth Avenue and 97th Street</td>
<td>1865 Sale</td>
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<td>7,781</td>
<td>519,185</td>
<td>219,466</td>
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<td>7. 64th Street and Broadway</td>
<td>1854 Sale</td>
<td>3,000</td>
<td>100,771</td>
<td>7,541</td>
<td>38,565</td>
<td>91,499</td>
<td>1,074</td>
<td>89,250</td>
</tr>
<tr>
<td>8. Central Park West and 97th Street</td>
<td>1859 Sale</td>
<td>15,000</td>
<td>78,329</td>
<td>7,187</td>
<td>130,892</td>
<td>91,437</td>
<td>24,202</td>
<td>347,047</td>
</tr>
<tr>
<td>9. Riverside Drive and 109th Street</td>
<td>1880 Est.</td>
<td>60,000</td>
<td>156,509</td>
<td>21,689</td>
<td>241,231</td>
<td>106,757</td>
<td>46,884</td>
<td>633,070</td>
</tr>
</tbody>
</table>

Table I consists of the study of nine different parcels of real estate located between 14th and 110th Streets, Fifth Avenue and the Hudson River. The starting point varies, depending upon the dates from which reliable information was continuously obtainable. The total value of these nine parcels at the starting dates is $319,900, which had increased by 1921 to the startling figure of $5,057,000. During the time that these properties were held vacant, however, a total amount of $2,043,388 was paid in taxes and interest. If this be included the present cost of these nine parcels is approximately $9,000,000, as against the present value of $5,057,000. Only two parcels in the list show a present value greater than the total cost; the one being at Fifth Avenue and 39th Street, the other at 64th Street and Broadway. In all the other cases, the present value is substantially less than the total cost. The most startling discrepancy is shown by the 14th Street parcel, the present value of which is approximately $700,000, as against a total cost of approximately $3,057,000. Interest on the base value totaled approximately $3,000,000. If this be included the present cost of these nine parcels is approximately $9,000,000, as against the present value of $5,057,000. Only two parcels in the list show a present value greater than the total cost; the one being at Fifth Avenue and 39th Street, the other at 64th Street and Broadway. In all the other cases, the present value is substantially less than the total cost. The most startling discrepancy is shown by the 14th Street parcel, the present value of which is approximately $700,000, as against a total cost of approximately $3,057,000. In this case, taxes and interest thereon total almost 50 per cent more than the present value.

### Table II—Tract on Washington Heights, 178th to 182nd Streets

<table>
<thead>
<tr>
<th>Base Year</th>
<th>Value in Base Year</th>
<th>Taxes on Vacant Land</th>
<th>Special Assessments</th>
<th>4% Compound Interest on Sale Value</th>
<th>4% Compound Interest on Taxes</th>
<th>4% Compound Interest on Special Assessments</th>
<th>Total Cost</th>
<th>Value 1921</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Tract</td>
<td>1891</td>
<td>$1,490,420</td>
<td>$653,475</td>
<td>$481,025</td>
<td>$1,642,380</td>
<td>$234,651</td>
<td>$264,740</td>
<td>$2,766,491</td>
</tr>
<tr>
<td>First Improved Tenth</td>
<td>1891</td>
<td>124,422</td>
<td>4,352</td>
<td>40,672</td>
<td>21,689</td>
<td>508</td>
<td>34</td>
<td>192,691</td>
</tr>
<tr>
<td>Unimproved Tenth</td>
<td>1891</td>
<td>131,450</td>
<td>165,248</td>
<td>46,495</td>
<td>294,892</td>
<td>76,412</td>
<td>8,487</td>
<td>774,867</td>
</tr>
</tbody>
</table>
COMMUNITY PLANNING AND HOUSING

Table II shows the result of a similar study of a large tract of land extending from 178th to 182nd Streets and from Amsterdam Avenue to Broadway. This tract was sold at auction in 1891 and shows a present value of almost double the present cost. A study was also made of the first 10 per cent of the land to be improved. In this case, the carrying charges are small and there is a present value of almost four times the total cost. On the other hand, that tenth of the property which remained unimproved in 1921 shows a cost of about double the present value.

Practically all the land studied in Table I has remained vacant up to the present time. Most of that included in Table II was rapidly built upon. The land of Table II has enhanced in value at a rate much faster than the average rate of increase of New York real estate, and yet that portion of this property which was held vacant for a considerable length of time shows a very high present cost.

Table III—Auction Sales

<table>
<thead>
<tr>
<th>Base Year</th>
<th>Sale Price</th>
<th>Taxes on Vacant Land</th>
<th>Special Assessments</th>
<th>4% Compound Interest on Sale Price</th>
<th>4% Compound Interest on Taxes</th>
<th>Total Cost</th>
<th>Value 1921</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Morris Park</td>
<td>1911</td>
<td>$3,674,590</td>
<td>$86,448</td>
<td>$728,792</td>
<td>$1,235,158</td>
<td>$795,359</td>
<td>$6,795,130</td>
</tr>
<tr>
<td>2. Van Cortlandt</td>
<td>1912</td>
<td>1,866,927</td>
<td>405,003</td>
<td>1,175,601</td>
<td>1,093,966</td>
<td>1,245,461</td>
<td>2,940,439</td>
</tr>
<tr>
<td>3. Riverdale</td>
<td>1909</td>
<td>260,075</td>
<td>49,351</td>
<td>57,508</td>
<td>151,798</td>
<td>11,249</td>
<td>207,045</td>
</tr>
<tr>
<td>4. Throggs Neck</td>
<td>1908</td>
<td>366,549</td>
<td>88,602</td>
<td>61,439</td>
<td>231,336</td>
<td>20,910</td>
<td>342,249</td>
</tr>
<tr>
<td>5. Osgood Estate</td>
<td>1907</td>
<td>1,520,823</td>
<td>357,945</td>
<td>232,263</td>
<td>952,518</td>
<td>97,962</td>
<td>1,326,543</td>
</tr>
<tr>
<td>6. Beekman</td>
<td>1905</td>
<td>1,192,400</td>
<td>215,170</td>
<td>123,832</td>
<td>606,929</td>
<td>475,814</td>
<td>1,472,100</td>
</tr>
<tr>
<td>7. Martense Farm</td>
<td>1909</td>
<td>146,200</td>
<td>35,531</td>
<td>31,804</td>
<td>79,228</td>
<td>7,615</td>
<td>113,843</td>
</tr>
<tr>
<td>8. Conant</td>
<td>1904</td>
<td>566,940</td>
<td>126,499</td>
<td>95,404</td>
<td>334,098</td>
<td>34,609</td>
<td>191,950</td>
</tr>
<tr>
<td>10. Livingston</td>
<td>1906</td>
<td>105,700</td>
<td>23,441</td>
<td>16,367</td>
<td>82,355</td>
<td>6,494</td>
<td>39,779</td>
</tr>
</tbody>
</table>

In Table III there is an analysis of the present position of the purchasers at auction sales of ten different parcels of land in all parts of the greater city of New York. These sales were advertised far and wide and attracted a great deal of attention at the time the property was sold. In not a single case does the present value come anywhere near equaling the total cost. The aggregate value of all the land in the ten pieces is only 50 per cent of the total cost. Most purchasers at auction sales are people of small means induced to invest their money by tempting advertisements; yet unless they promptly improve their lands they are almost certain to suffer losses.

Table IV—Land Values in Five Boroughs of New York City, 1906-1921

<table>
<thead>
<tr>
<th>Borough</th>
<th>Value in 1906 Land Only</th>
<th>Taxes Paid on Vacant Land</th>
<th>Special Assessments</th>
<th>4% Compound Interest on Value in 1906 on Vacant Land</th>
<th>Interest on Special Assessments</th>
<th>Total Carrying Charges, Inc. 1906 Value</th>
<th>Value of Land in 1921</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manhattan</td>
<td>3,421,000,000</td>
<td>46,396,000</td>
<td>19,719,000</td>
<td>134,000,000</td>
<td>12,799,000</td>
<td>404,000</td>
<td>3,644,317,000</td>
</tr>
<tr>
<td>Bronx</td>
<td>278,000,000</td>
<td>41,644,000</td>
<td>60,281,000</td>
<td>91,472,000</td>
<td>11,457,000</td>
<td>9,260,000</td>
<td>364,615,000</td>
</tr>
<tr>
<td>Brooklyn</td>
<td>651,477,000</td>
<td>83,795,000</td>
<td>51,797,000</td>
<td>102,040,000</td>
<td>12,083,000</td>
<td>89,325,000</td>
<td>789,925,000</td>
</tr>
<tr>
<td>Queens</td>
<td>116,390,000</td>
<td>46,022,000</td>
<td>34,316,000</td>
<td>46,022,000</td>
<td>11,442,000</td>
<td>4,374,000</td>
<td>232,464,000</td>
</tr>
<tr>
<td>Richmond</td>
<td>72,227,000</td>
<td>4,134,000</td>
<td>1,186,000</td>
<td>31,000,000</td>
<td>22,351,000</td>
<td>22,351,000</td>
<td>161,850,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4,496,916,000</td>
<td>176,797,000</td>
<td>169,312,000</td>
<td>381,862,000</td>
<td>48,968,000</td>
<td>5,292,408,000</td>
<td>4,919,848,000</td>
</tr>
</tbody>
</table>

Table IV attempts a survey of all the land in the city of Greater New York for a period of fifteen years from 1906 to 1921. The point of greatest difficulty in this part of the study was to determine the actual value of the land at the starting and terminal points. The method described above was the one that was used and every effort was made to reduce the margin of error. The difficulties of arriving at a correct value of all the land in the City of New York are, however, very great and the estimate may not be absolutely accurate. It is unlikely, however, that a greater error than 10 per cent has been made and even if this be allowed the figures are very surprising. They show, in the first place, that the aggregate value of the land in the Borough of Manhattan has not increased in the last fifteen years. It is quite probable that the occurrence of the war, checking as it did a substantial number of the building operations, exercised a retarding effect upon land values. Another explanation lies in the fact that whereas certain parts of the city have increased enormously in value, other parts have declined. Even assuming a 20 per cent error in the estimated value of land in 1921, the enhancement since 1906 averaged over the entire borough would still be very small indeed.

In the Borough of The Bronx there was a large proportion of vacant land in 1906 which has since been developed and the value of the land shows an increase from $278,000,000 to $364,000,000. But during this period the owners of the vacant land paid taxes of $41,000,000 and special assessments of $60,000,000, making a total of $101,000,000, a charge which would be increased by an additional $21,000,000 by the inclusion of interest on these two items for land that has remained vacant. In other words, the land included in the Borough of The Bronx increased $90,000,000 in value but there was expended $122,000,000 for assessments and taxes on vacant land.
and interest thereon. In other words, the total increase in the borough including the increase on improved property was less for the period in question than assessments and taxes on vacant land. In addition to these items, interest on the base value of the land of $91,000,000 swells the total present cost to $492,000,000, as against a present value of $364,000,000. In Brooklyn, Queens and Richmond the story is much more favorable to the holder of vacant land. In each of these cases the increase for the whole borough is sufficient to show a profit as against the present cost, although not a very large one. For the entire city the cost is somewhat greater than the present value.1

From the entire study, the conclusion which seems irresistible is that, popular opinion to the contrary notwithstanding, the holding of vacant land is exceedingly unprofitable and that it is much better to deposit one's money in a savings bank than to buy a piece of vacant land and continue to hold it vacant. Whether or not the holding of vacant land is socially desirable, there can be little doubt that from the standpoint of sound investment it is inadvisable.

The above figures would also indicate the necessity

1 It will be noted that in the above tables changes in the purchasing power of money have not been taken into consideration. If the present values were corrected on the basis of the 1913 price level, there would be a substantial reduction in the 1921 values.

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**Town Planning in England**

**By THOMAS ADAMS**

The most important and largely attended Town Planning Conference that has been held in England since the R. I. B. A. Conference of 1910 was opened in Manchester on Monday, 9 October, 1922, and extended over a week. The Conference was held in the Manchester Town Hall, and was particularly remarkable because of the interest shown by the local authorities in what is known as the Manchester region. An Exhibition of plans, models, and drawings took place in connection with the Conference and illustrated the progress being made in town planning in all parts of England.

The auspices under which this Conference and Exhibition were held indicate a significant trend towards the development of regional planning, and shows that the progress of town planning in the future will be largely assisted or retarded by the success which meets the present efforts being made to promote regional schemes.

The Conference was convened by the Manchester and District Joint Town Planning Advisory Committee. This Committee is representative of the local authorities lying within an area of 700 square miles, with Manchester as the centre. It includes, besides Manchester, large cities and towns like Salford, Stockport, Oldham, Bolton, Bury and Rochdale.

The organization which has been set up in the Manchester district for the purpose of making a regional survey and preparing a regional plan is one of a number that have been formed in different parts of England. Similar organizations or joint committees have been formed to deal with the planning of such areas as the Tyneside Region, where Newcastle is the main urban centre, South Wales, the Doncaster coal region, West Middlesex, South Essex and elsewhere. The Manchester region is the largest and perhaps the most important that is being dealt with by a joint committee. The 700 square miles in the region lie within a radius of 15 miles from St. Anne's Square, Manchester. Within this radius there are local authorities, comprising what are known as county boroughs, urban districts and rural districts. There has been a certain amount of town planning in the region since the passing of the Town Planning Act of 1909. Some 17 or 18 schemes are in course of preparation in different parts of the area. Another score or more will have to be prepared under the compulsory clauses of the Town Planning Act by 1926, and several of these schemes are now under consideration. The measure of agreement between the different districts is remarkable notwithstanding that there are a few authorities not prepared to cooperate. For instance, there are 14 or 15 small districts that do not want to prepare town planning schemes. Undoubtedly the educational work that is being done by the Joint Committee will gradually have the effect of bringing all the Councils in the region into line.

As is well known, Manchester derives its importance...
and its wealth largely from the cotton industry, but it is also an important centre for engineering and glass manufactures. The Lancashire people are strongly individualistic and, in spite of much progress they have made in achieving wealth and promoting education, the towns in which they live are among the worst planned and most depressing in the country. The town and regional planning movement which is developed in this district affords the hope that a real effort will be made to secure better amenities of life for a vast industrial population that has suffered from some of the worst evils of congestion and disorder in town development.

The Conference. A dominant figure throughout the whole proceedings, lasting a week, was the lord mayor of Manchester. The "managing director" was Alderman T. Turnbull, D.L., Chairman of the Joint Committee, who has been an ardent supporter of town planning for the last twelve years. Ten mayors, including the lord mayor, occupied the chair at the different sessions. Among those who read papers were Sir Henry Maybury, Director-General of Roads; Professor F. Abercrombie, A.R.I.B.A., Professor of Town Planning, Liverpool University; Professor Alshead, F.R.I.B.A.; Mr. F. L. Elgood, O.B.E., F.R.I.B.A.; Mr. G. L. Pepler, Chief Town Planning Inspector, Ministry of Health; Mr. I. G. Gibbon, C.B.E.; and the author. Professor Abercrombie dealt with "Regional Planning," Mr. Elgood with "Town Planning Schemes," and Professor Alshead with "Imagination in Town Planning." Professor Abercrombie referred to Boston metropolitan area as having accomplished the most important pioneer work in connection with regional planning. Although, as indicated, several architects took part in the proceedings, there was not much attention given to the architectural phases of town planning. This is perhaps natural, because of the regional character of the Conference and discussions.

The Exhibition. The Exhibition was chiefly remarkable because of the extent to which it showed that civic surveys were being promoted in different parts of the country. A great deal of town planning that has been carried out or started in England was based on inadequate studies of existing conditions. After the work of preparing the plans had proceeded to a certain stage, the need of fuller knowledge became evident and caused plans to be suspended. That has gradually created, therefore, an appreciation of the necessity of making thorough investigations of civic conditions as a preliminary to preparing plans. Indeed, this is one of the causes which has brought about the popularity of regional studies. If a thorough study is made of a whole industrial region it saves the necessity of making detailed civic surveys for each separate district within it. Perhaps the most significant exhibit was the one relating to the district in which the Exhibition was held. This included historical maps showing the growth of Manchester and other cities, survey maps showing open spaces, contour traffic densities, etc., diagrams illustrating the existing conditions as a basis for zoning, and interesting studies showing the ideas of certain authors as to the probable state of development in Manchester, Rochdale, Hythe, and other places in the year 2000.
LLOYD ELIOT WARREN
A.B., M.A., Ph.B., A.D.G.

Atelier Daumet-Girault-Esquié, 1892
Past President of the Society of Beaux-Arts Architects
Chevalier of the Legion of Honor
Born 10 November, 1868
Died 25 October, 1922

"And unto one he gave five talents, to another two, and to another one; to every man according to his several ability; and straightway took his journey. After a long time the lord of those servants cometh and reckoneth with them. And so he that had received five talents came and brought other five talents, saying, Lord, thou deliverest unto me five talents; behold, I have gained beside them five talents more."

It is not a little thing that a man, as to whom all the outer circumstances of life might conspire to cloud his sense of the responsibilities, the privileges, of an unusual position, should deliberately choose, not the easy way but the rough path of service to his fellow men. Birth, breeding, fortune, education, Lloyd Warren used as instruments in his daily service of the spirit of beauty, in the effort to give others also the opportunity to serve at beauty's shrine; and renounced the practice of his art that he might dedicate himself to this—to what he felt to be of greater worth to the world. No one can fill the place he held, no one can wield the influence that was so peculiarly his—this beloved and respected leader, victim of a tragic and untimely fate; but over his bier as it lay violet strewn below the wonderful reredos in St. Thomas's must have risen more than one reverent and affectionate vow: that the work he had so well begun and so generously supported should not fail of full accomplishment.

"His lord said unto him, 'Well done, thou good and faithful servant: . . . enter thou into the joy of thy lord.' "

396
Public Information About Architecture

By JOHN V. VAN FELT

Chairman of the Committee on Publications and Public Information

This month a large proportion of the Public Information Committees of the different Chapters have responded to the request for a report. Many of them have not had Chapter meetings and have only been able to forecast activities. Nevertheless the Institute Committee is grateful for a word of any kind and would like to receive 51 letters from the 51 Chapters between the 4th and 6th of each month.

The Baltimore Chapter, through the efforts of John H. Scarff, is continuing the publication of articles in Baltimore Evening Sun. The last we have on file is the issue of 7 October, was on The Development of Art. Each one of the Chapters should undertake work of this kind.

The Boston Chapter issues a monthly bulletin and interests itself in civic improvements. Except for the very useful work of Mr. Bourne in having induced the Christian Science Monitor to publish articles of architectural interest, we have not yet any information concerning further activities with the press on the part of any Chapter.

The Brooklyn Chapter is inquiring into the difficulties that the Building Department finds in the changing of plans after approval of the Department so that buildings are at times constructed in violation of the law.

The Chicago Chapter has done notable work in bringing before the public, the desirability of restoring the old Fine Arts Building of the World’s Fair, as has already been recorded in the Journal.

The Connecticut Public Information Committee proposes to furnish to the press, descriptions of the winning drawings in public competitions within the State and the copy of a satisfactory description of all of the important public or semi-public buildings as they are completed.

The Minnesota Chapter has been preparing articles for publication in the Minneapolis Journal. Furthermore, different architects in Minneapolis belonging to the Minnesota Chapter financed certain paid publicity in the Minneapolis Journal. The tax to architectural firms was $18.00 and to individuals $12.00 for the winter’s publicity.

The space contracted for was two columns wide and seven inches long, but the newspaper gave, in addition, considerable space for a general news item of which the Chapter took advantage and which was felt to be most valuable.

During the coming winter the Chapter plans the same form of publicity and to supplement it with a series of personal letters mailed to the majority of businessmen in Minneapolis every two weeks. It is also outlining a talk to be given before the Rotary Club and other similar organizations. In addition it has taken up the matter of credit for the architect whenever a building is mentioned or a photograph published in the newspapers. It finds by advertising in the newspapers that they have more or less of a lever over them and the latter are much more generous with their space and in giving the architect credit where credit is due. It also intends to approach the realtors of Minneapolis requesting that when they offer a house for sale they mention that it was designed by an architect, if that be the case, and if possible, give the architect’s name.

The Nebraska Chapter is furnishing a series of lectures once a month before the Omaha Business Woman’s League and purposes having the same lectures given before some club in Lincoln. The first of these, delivered in October, was quite successful. The Chapter has taken up with the Lincoln daily papers the subject of having credit given the architect when illustrations of buildings are published.

The New York Chapter has begun an inquiry into improper or undesirable conditions in the building trades. The Chapter is also preparing one or more traveling exhibitions to be sent on circuit throughout the country by the American Federation of Arts. This might also be done by other Chapters having available material. Communicate with Miss Leila Mechlin, Secretary of the American Federation of Arts, Washington, D. C.

The North Carolina Chapter is working on some small house plans which they hope to furnish.

The Tennessee Chapter has undertaken to hold a yearly exhibition within the State. The first of these at Memphis, held during the summer, was a success.

About the middle of October the members of the Wisconsin Chapter subscribed individually for a full-page advertisement in the Milwaukee Sentinel setting forth the advantages of complete architectural service. The advertisement is dignified in appearance and begins with the caption “Build Better Homes.” There are some small decorative illustrations and at the bottom of the page in medium-sized, bold-face type is the signature “Wisconsin Chapter, the American Institute of Architects.” From 2 until 15 November, the Chapter held an exhibition in the Milwaukee Art Institute furnished by the Associated Tile Manufacturers with about 150 enlarged photographs of examples of work executed in that city.

¹Address communications to 126 East 59th Street, New York City.
Mr. Kelsey and Mr. Boyd were scheduled to deliver addresses. One evening was given over to a joint discussion by representatives of the tile-setters' union, tile contractors and architects. Leigh Hunt, chairman of the Public Information Committee of the Chapter, has exerted considerable personal effort with the Milwaukee editors to induce them to give space to architectural matters and the Milwaukee Journal has agreed to publish satisfactory material.

It is possible that although the Institute formally gave its approval to advertising, some of the members may be unsympathetic to a paid newspaper advertisement. It must be said that the Chapter advertisements put forth in Minneapolis and Milwaukee are dignified. But this question is not the point. What is important is that these Chapters not only have the courage of their convictions but are transmuting those abstract convictions into concrete facts. They are doing. Even that would not be enough. What they are doing is done well. They are succeeding.

The Secretary's Page

BOARD MEETING: Among the subjects for discussion by this body, assembling December, 1922, at Denver, are the following:

- Bill Providing for Systematic Extension of the Park System of the National Capital.
- National Capital.
- Regional Representation.
- Purchase of Sites by the Public Buildings Commission for Housing.
- Establishment of Scholarship at American School of Classical Studies in Athens.
- Structural Service Matters.
- 1923 Convention.
- Small House Service Bureau, Miscellaneous Matters Connected Therewith.
- Arlington Memorial Bridge, Proposed Site Rejected by Fine Arts Commission.
- National Board for Jurisdictional Awards.
- Pan-American Congress of Architects.
- Engineering Division of National Research Council, Consolidation with Engineering Foundation.
- Institute Representation on Consulting Committee of the Central Committee on Lumber Standards; also Request of $1,000 Contribution by A. I. A. to Committee on Lumber Standards.
- Jury of Fellows.
- Government Architecture, Institute's Position with Regard to Same.
- Alabama Marble Company, Scholarship Offer of.

On 9 November a meeting of the Finance Committee, composed of Wm. B. Ittner, Chairman; Horace Wells Sellers, Lansing C. Holden, James O. Betelle and John B. Slee, was held at New York City for a discussion of the budget of 1923 and a general survey of the Institute's financial situation.

New Members Elected

(As of 25 October, 1922.)


(As of 20 October, 1922.)


Errata

We regret exceedingly that in this same space last month appeared two errors in regard to the competitions conducted by the Cleveland Chapter. Its Secretary informs us that the first was for "houses costing $20,000 to $25,000," instead of "$2,000 to $2,500," as was stated. The second was for "houses not to exceed 800 square feet" instead of "700 square feet."—EDITOR.

The Architecture Club

By J. C. SQUIRE

As President, during the current year, of the Architecture Club, I have been asked by the Editor to give a few particulars as to its origin and aims.

The Club originated in discussions which took place last year between certain architects and men of letters interested in architecture. It was generally agreed that there was insufficient contact between architects and workers in other arts; that the press devoted far too little attention to architecture and especially to informed criticism of it; that the general public, though in a considerable degree interested in buildings, was given too little guidance and did not even know the names of the most eminent architects; and that steps should be taken to remedy these evils.

A series of dinners followed, at which some twenty or thirty persons attended. It was decided that a Club should be founded, composed in part of architects, in part or authors and journalists, and in part of interested laymen, which should do its best to promote the interests of the best modern architecture.
PUBLIC INFORMATION ABOUT ARCHITECTURE

A committee was elected consisting of Messrs. Oswald Barron, James Bone, A. Clutton-Brock, Sir Lawrence Weaver and J. C. Squire (non-architects) and Messrs. Vincent Harris, Oswald P. Milne, G. Gilbert Scott, R.A., Ralph Knott, H. Austin Hall and Professor Reilly, representing the profession. Mr. J. H. Elder-Duncan was appointed Secretary, he having been an architect; and the committee drew up a constitution.

This was announced as the first Quarterly Dinner of the Club, which was held at the Hotel Cecil, in July. There was a large attendance and speeches were made by Messrs. H. J. Goodhart-Rendel, G. K. Chesterton, J. St. Loe Strachey and others. The rules announced provided for a total ultimate membership of 300, of which roughly one-third were to be architects. A hundred and fifty, including fifty architects, were to be elected this year and the rest at the rate of ten a month.

Note—The story of the Architecture Club of London is reprinted from the Journal of the Society of Architects, London. It seems fairly safe to say that architecture is almost never the concern of men of letters in this country. As to how greatly architects are concerned with the art of literature, taking the profession as a whole, we, of course, have no opinion. But the apostles of one art cannot come into intimate contact with those of another except with profit to both, and assuredly architecture greatly needs the support of literature.—EDITOR.

The Labouisse Prize

Samuel Stanhope Labouisse, whose untimely death was mourned not only in the city of New Orleans where he lived, but throughout the American Institute of Architects, was one of those rare souls to whom architecture was a veritable development for transcending the cleverness of the trained designer or the pedagogy of the successful practitioner. In the city of New Orleans—where was once to be found, perhaps, the gayest flowering of the art of building on the American continent—Samuel Labouisse came into his own as naturally as a free soul responds to beauty always. He labored patiently, untringly, and always uncompellingly, to show Orleanians the treasures that lay all about them, either sinking to melancholy and contemptuous decay or falling before the wrecking crews of the new spirit that was loudly acclaimed as progress.

Thus it was, with great joy, that we learn of the prize with which the name of this great soul and gentle architect is to be commemorated. Thanks to an anonymous gift, the Department of Architecture (founded by Mr. Labouisse) of Tulane University, will give an annual prize to that student whose work exhibits the best appreciation of the architectural traditions of New Orleans. It is an example that other institutions might well follow, before all the charm of many an early American development is sacrificed to the incongruous intrusion of meaningless academic motifs. But these young graduates of Tulane University will need help and encouragement. So let the citizens of New Orleans, through one of their great civic organizations, offer a worthy prize to that owner of a building, who, during each twelvemonth, shall have encouraged his architect to produce a work most in keeping with that unique and precious tradition which is the joy of all artists the world over. By whatever name it may be called would not matter, for Samuel Labouisse loved his city and his art with no thought of vainglorious preferment.

American Academy in Rome

The jury of the American Academy in Rome, composed of Breck Trowbridge, Chairman; Herbert Adams, E. H. Blashfield, F. C. Jones, W. M. Kendall and Ferruccio Vitale, announces the result of the Competition for the 1922 Collaborative Prize offered by the American Institute of Architects. The award was made to the joint design of Messrs. J. K. Smith, architect; S. Lascari, painter, and E. R. Ameitis, sculptor. The problem was the design and decoration of a group of buildings—ten studios, a dining and lounge building, and a pavilion of music. Details of the winning drawings appear on page 383.

From Our Book Shelf

Concrete and Stucco Houses Again

The continued demand for popular handbooks on domestic architecture is evidenced by the re-issue of that of Mr. Hering. Few changes have been made from the first edition of 1912. The colored frontispiece, to be sure, has disappeared. To compensate, we have an added chapter “House Stucco Helps to Solve the Housing Problem in New York City.” This is a plea for the new movement of society East River-wards, where stucco is to conceal the ancient brownstone. Much of the “brown-stone,” one might urge, is itself stucco, but obviously there is something magical in the replacing of brown stucco by white! One would like to have seen the illustrations enriched with some of the best work in stucco during the last ten years, both along the lines of expression of material emphasized by Mr. Hering, and of abstract beauty of form, in the hands of the classicists and Palladians.

F. K.

Machines and Men

In his preface to this more than remarkable book Mr. Chesterton says that the author is “one of the two or three original minds of the modern world” and the book goes far towards justifying this estimate, as well as many other complimentary things that may equally well be said. It has been very interesting to watch Mr. Penty’s development from his earliest essays, such as “The Restoration of the Guild System” and “Old Worlds for New,” through “A Guildsman’s Interpretation of History,” to this last book of his and “Guilds, Trade and Agriculture.” Steadily and consistently he has probed deeper and deeper into the causes of the catastrophic downfall of industrial civilization, of civilization itself, and in this last book he pretty nearly reaches rock-bottom; there remains but one

more to write, one deeper probe to be achieved, and this, unless we are much mistaken, he will accomplish before long; there are passages in "Post-Industrialism" that already foreshadow this event.

Mr. Penty is an English architect, and it should be a matter of pride to our profession that it is one of us who, better than political economists or historians or philosophers, has estimated existing conditions, discovered several of the radical factors that have brought them about, and indicated the way out of the intolerable imbroglio in which we now wander, distracted and dismayed. There is no reason why it should cause surprise, however, for architects by their temper, training and practice are both analytical and constructive, while their relationship to beauty in all its forms should certainly give them clearer vision than usually comes to other men. In any case it is true that the architects of England and America are not only responsible for the most vital manifestation of this great art that has shown itself for several centuries, but have also revealed through many of their number a grasp of the great social, economic and political problems of the present day that is hardly to be matched in other categories of human activity.

Mr. Penty was by no means the first to mark the grave dangers inherent in the whole system of industrialism, or to estimate at their true value the results of a century of unimpeded and portentous development. Ruskin, Samuel Butler, William Morris and Walter Crane were vociferous in the last quarter of the nineteenth century, and were well laughed at for their pains, while the years of the Great War and the Little Peace have been loud with the thunders of condemnation hurled on a system that until 1914 had been almost universally hailed as final and almost above criticism. Nor is he the first to suggest palliatives. We have had enough of them, Heaven knows, from Owen and Fourier and the Shakers and Brook Farm and Henry George, to Communism and Syndicalism and Bolshevism and "One Big Union." Everything that has been tried has failed, and the things that haven't been tried would meet the same fate, because none of them has got to the roots of the matter but has simply scratched the surface. The eternal war between capital and labor, the failure of representative democratic government, the loss of right standards of comparative value, have brought out a thousand apologists with a thousand panaceas, but none of them is convincing because none of them dares to admit that it is not the method that fails, but the thing itself, and that is—machinery, the things it has brought about, and the ideals and new code of living it has encompassed.

This is Mr. Penty's thesis; that machinery and the blind worship it has instigated in its dupes and slaves are one of the prime sources of the poison that has vitiated modern civilization and brought it down in disreputable ruin, and that no solution of our manifold ills can be found for until this fact is recognized and machinery is put under rigid restriction and control, the subdivision of labor abolished, "scientific management," "efficiency," and the quantitative standard put under the ban, and the ideals of men turited from legal enactments, systems and all other mechanical devices, to character, eternal principles revealed through history, and spiritual values expressed through individuals and communal groups of individuals. In a word, "the war has given the lie to Marx as it has done to Herbert Spencer, for it has revealed industrialism as a destructive rather than a constructive force," and it must be curbed and largely destroyed if it is not to bring the world down into another period of Dark Ages. I quote almost at random a few sentences that show Mr. Penty's convictions better than I could paraphrase them.

"It is not the evolution of capitalism that determines the evolution of machinery, but the evolution of machinery that determines the evolution of capitalism." Architecture "is attacked on all sides by a combination of influences against which the architect is apt to struggle in vain, most of which are directly or indirectly the consequence of unregulated machine production."

"If any art is to revive, it must be an art that is the common possession of the whole people and such an art cannot be grafted on a machine society. On the contrary, the arts (if we may so call them) that a machine population can share, are the arts of the cinema and the gramaphone, and the only culture is the culture of mechanism, whether it be motor cars or aeroplanes."

"The principle for which we contend then is that if machinery is not to be a curse we must, in our use of it, never lose sight of the fact that human values come first."

"There is no solution of our problem, apart from a return to simpler conditions of life such as would reduce the complexity of our relationships to terms commensurate with the human understanding."

All these quotations are from the earlier chapters of the book and the remainder is quite as full of meat. Not the least valuable is the chapter that deals with machinery in government, where the author shows the definite impossibility of any free government, monarchical, republican or democratic, existing under the terms imposed by an industrial civilization the nature of which is determined by machinery.

It may seem from this review, it may even seem from a cursory reading of the book itself, that Mr. Penty offers
machinery and the subdivision of labor as the sole cause of all the fatal weaknesses that are showing themselves in modern civilization. Such an inference would be far from the truth. The unhappy vicissitudes that have overtaken religion and philosophy, and the low-grade substitutes that have been offered—and accepted—have an equal part in the calamity. This fact is recognized, and later on Mr. Penty says:

"Political and economic activity pursued apart from a new ideal of life as expressed in spiritual values, is for the most part a vain delusion; * * * the economic evils of our society are finally nothing more than the obtrusive symptoms of an inward spiritual disease that has followed the separation of man from religion, art and nature, and which has changed the substance of our lives and activities."

Yes, this comes close to the root of the thing. It was the coincidence of the mechanical inventions and scientific discoveries with a condition of society and human character brought about by the loss of religion and the prevalence of a false philosophy that turned the "labor saving" machines into engines of destruction and panders of slavery. In the late twelfth or early thirteenth century these very inventions and discoveries might possibly have been curbed and used to beneficial ends, for society was dominated then by powerful spiritual forces that could bring good even out of evil. It is in this fact that we can find both the assurance of the uselessness of the materialistic and "practical" panaceas now offered us, and the pointing to the way that leads towards valid remedies. You cannot cure a drunkard by taking away his whiskey, but only by taking away his desire for whiskey, and similarly you cannot cure the ills of an industrial civilization by mechanical laws or the purblind conclusions of committees, commissions or conferences, but only by creating a new vision and new ideals in individual men.

Today the world is one ridiculous welter of honest and sincere citizens getting together in hired halls and passing resolutions and publishing reports. Nothing comes of it except a worse confounding of the confusion. If they would forget it all, go back to their homes and sensibly pray "Renew a right spirit within me, O God!" the results might be different.

The only way to spot in this book is Mr. Penty's apparent yielding now and then to the very mechanical methods he so justly condemns, when he tries to indicate some method whereby the limitation and control of machinery and the abolition of subdivision of labor may be accomplished. For example, in dealing with the necessary return to the Mediaeval guild system in industry he says, "the first thing to do it to create a popular belief in the ideals of craftsmanship by means of propaganda": Abit omen/*—"Following that, there must be organization of the market and the provision of credits for craftsmen. If this were undertaken on a large scale as part of a national movement that sought to establish Guilds, fix prices, regulate machinery and abolish the subdivision of labor, that would be a practical proposition.

You see how hard it is, even for Mr. Penty with his clear vision, to escape from the mechanical incubus, "propaganda," "organization of the market," "large scale," "national movement," "practical proposition." What are these but the very ear-marks of mechanized civilization expressed in the very jargon of the social enemy? Well, we cannot be too hard on Mr. Penty; we all do it by a kind of instinct bred of long familiarity; it is hard to emancipate ourselves, even in thought, from our own age. No, the salvation must come from the things condemned in the book, and a return made to the things here praised, but it will hardly be by mechanical means or "mass-action," rather by the renewal of a right spirit in the individual, the achievement of a new vision, and the concurrent action of small and inconspicuous groups of men of like mind and good will. St. Benedict made over and saved Europe for a thousand years, but the revolution was effected by one man in a hidden cave in the Calabrian hills.

It seems to me that this book is the most revealing, stimulating and sane product in its own category that has as yet appeared. Those who read it might well do so in connection with "A Guildsman's Interpretation of History," Tawney's "Acquisitive Society," Bello's "Servile State," Chesterton's "What's Wrong with the World," and Dr. Figgis' "Civilization at the Cross-Roads,"—and if they haven't already read Samuel Butler's "Erewhon" and William Morris' "News from Nowhere" and "The Dream of John Ball" they should do so at once.

RALPH ADAMS CRAM.
cal Expedition to Syria." In 1910 he was the organizer and director of the American Expedition to Sardis. The work was producing remarkable results when the outbreak of the European War in 1914 put an end to the excavations.

In the spring of 1922 work at the site was resumed, and it was on his return from Sardis in midsummer that he died of heart failure induced by the after-effects of fever.

In 1921 he was made chairman of the committee to reorganize the Journal of Archaeology, and also of the Research Commission established by the Archeological Institute of America to prepare a general survey of the three fields of Oriental, Classical and American Archaeology and to present a report on projects in these fields to lay before the great financial foundations in the United States.

Howard Crosby Butler will be remembered for his personality, not to mention his remarkable ability as a lecturer and teacher, which was perhaps his greatest influence. He had the gift of inspiring his students with his enthusiasm and love of architecture not only as a technical science but as an art. From this influence sprang the Princeton School of Architecture in which not only is the technical side of architecture provided for but the allied arts of sculpture and painting are also taught in their relation to architecture.

V. LANSING COLLINS.

Dudley McGrath
Elected to the Institute in 1908
Died at New York City, 1 October, 1922

Dudley McGrath, a member of the New York Chapter since 1914, died recently after a brief illness. He was the son of the late Thomas H. and Maria A. Bergen McGrath, and received his early education in the public schools of Brooklyn, the Polytechnic Institute, and later at Columbia University. He entered the office of J. B. Snook & Son immediately after leaving college in 1893, serving with them as assistant engineer, and later as chief engineer of their construction department, until 1902. He then began the practice of architecture as a member of the firm of Davis, McGrath & Shepard, which later became the present firm of Davis, McGrath & Kiessling. For a number of years he delivered a course of lectures on the subject of “Building Contracts” to the architectural students of Pratt Institute.

For many years Mr. McGrath was an active member of the Brooklyn Chapter of the Institute, serving on the Board of Directors and as Secretary of the Chapter from 1911-1913, after which he transferred to the New York Chapter. For a long period he represented the Brooklyn and later the New York Chapter as a member of the Joint Committee on City Departments and rendered valuable service in the effort to secure a better Building Code for the City.

His natural optimism endeared him to his co-workers and his considerate attitude towards others in the practice of his profession made his loss keenly felt by his associates and his many friends within and outside the profession of architect.

Structural Service Department appears on the second right hand page following
Rushing Waters!

Here the rushing waters of the Genesee River have worn a gorge 20 miles long through the solid rock, with walls in places 520 feet high.

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It all comes down to this—that Raymond Concrete Piles can be depended upon because the Raymond Method is to cast each pile column into a steel shell—or form—which is left in place in the ground—note the top of a typical finished Raymond Pile—
Abstracts

Purity of Copper. (15b) — (Mining and Metallurgy, Nov., 1922. "One Phase of the Problem of Increasing the Consumption of Copper," by H. H. Stout). The high copper price during the war stimulated the capacity to produce far beyond a possible normal consumption and the copper industry consequently faces: (1) Potential over-production capacity; (2) Diminished consumption. Obviously the remedy for this condition is to increase, if possible, the consumption of copper by reducing the price and by improving the product.

It would appear that the copper producer has made very creditable progress in reducing the price of refined copper product as sold by the refiners. This article, therefore, discusses the problem of improving the product. The particular step that is discussed is the final one; namely, copper in the form of cathodes, of pure native copper, is melted in a reverberatory furnace and cast into the final, marketable shapes and bars. This operation consists of:

A. Charging copper into the furnace (charging period).
B. Melting the copper by allowing a flame from coal or oil to play over the surface (melting period).
C. Blowing air through an iron pipe inserted beneath the surface of the molten metal for the purpose of saturating it with oxygen. The object of the oxygen saturation is to oxidize and remove impurities which have been absorbed from the furnace gases, primarily sulfur (oxidizing period).
D. Reducing the oxygen previously put into it (poling period).
E. Running the molten copper out into molds. During this time (about 4 hours) the surface is kept covered by charcoal and short pieces of wood (casting period).

To begin with, it may be stated that the methods used in these five steps are identical with those followed as far back as there is any history of the art. In other words, there has been no progress in this particular operation in many centuries.

At the completion of the oxidizing period, the molten metal should contain at least 0.38 per cent oxygen, which is 3.3 per cent copper oxide. In this small amount of copper oxide, all the remaining copper crystals are soluble, so the metal is 100 per cent copper-copper-oxide eutectic, and does not contain any undissolved copper crystals.

Stated in another way, its purity is zero for the reason that the eutectic is a substance that is practically worthless, as far as physical qualities are concerned. More particularly, it is readily attacked by many of the gases found in normal atmosphere, and to the presence of this substance in sheet copper can be traced nearly all of the few failures of the metal which have caused engineers and architects to be averse to its more extended use.

After the molten metal reaches 100 per cent eutectic, all impurities have been removed by the oxygen. Since 0.4 per cent oxygen means 100 per cent impure eutectic, it follows that 0.1 per cent oxygen remaining in the finished product means 25 per cent impurity. Stated in a more concrete way: The impurity present is 250 times the oxygen content.

Standard specifications for refined copper are: Copper, not less than 99.88 per cent. Oxygen, not more than 0.1 per cent.

Another source of physical defects are certain gases which are soluble in the molten metal. As the metal is cooling in the molds, hundreds of minute specks of copper being projected upward from the molten surface can be seen. This is the gas which (not being so soluble in the cold metal) is being expelled during cooling.

The sheet copper used in the trades and arts is made from the bars produced by the refinary by rolling, annealing, rolling again, then annealing, etc., until the desired thickness and size is secured. The annealing consists of heating the copper to about 1,500 degrees F. and maintaining it at that temperature for various lengths of time (depending on its character). The heat is applied, allowing the flame from commercial fuel, coal, oil or wood to pass around the metal as it is piled in the furnace. The combustion gases from commercial fuel playing around this metal contain in various amounts: oxygen, nitrogen, hydrogen, hydrocarbons, sulfur, CO, CO₂, SO₂, etc. The relative amounts of each gas change from time to time and it is absolutely impossible to so regulate the combustion that a definite desired composition is always maintained.

A perfectly fair and logical conclusion may be drawn to the effect that notwithstanding all the care and regulation with which the annealing furnaces are operated, it is possible to change the chemical and physical properties of the sheet copper product. Also, the lower the per cent of eutectic (or per cent of oxygen) the less is this likely to happen.

Of course, all oxygen can be removed in poling? During the casting period, the flame from commercial fuel containing hydrogen and SO₂ plays over the surface of the molten bath, and for about 4 hours it absorbs these gases in a greater or lesser degree. In order to offset the evil effects of these two gases on the final bar, the furnaceman is forced to allow some oxygen to remain, as that is the only way he can produce a casting that will "get by."

From a study of micrographs of copper bars the following tentative conclusions, which may or may not be altered by future research, might be drawn:

Hydrogen.—It is absorbed by molten copper and when the hydrogen has reduced all the oxygen it is highly soluble, producing a hollow core in final casting. It is absorbed by the solid metal hot and cold and penetrates the entire mass.
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Hydrocarbons.—No conclusion can be drawn as to their solubility in molten copper (from the hollow casting) as the commercial illuminating gas used contained hydrogen also. Some hydrocarbon compounds are absorbed by the solid hot metal, penetrating the entire mass, reducing the oxygen and leaving carbon distributed throughout the interior of the metal.

Sulfur Dioxide.—It has no appreciable effect on solid copper, hot or cold. If the oxygen content of molten copper falls below a certain mass reaction balance, SO₂ is dis-associated, absorbed and both O and S combine. The S forms a copper-copper-sulfide eutectic. The copper oxide separates out as individual crystals.

Air.—It oxidizes from the surface all copper in whatever state.

Carbon Dioxide.—It is neutral to all solid copper, hot or cold. It is neutral to pure molten copper.

Carbon Monoxide.—It reduces copper-copper-oxide eutectic in solid copper progressively from the surface. If at all, it is only slightly soluble in molten copper. The small holes in the CO melt micro are similar to the hydrogen melt micro, and hydrogen was present in the cathode used in the CO melt.

From a practical standpoint, these mean that after copper is melted it must be removed from contact with the combustion gases resulting from commercial fuel and which contain hydrogen and SO₂. It can then be oxidized by air and reduced by charcoal, and practically a perfect product will result. This points to an electric furnace. Since all cathodes contain some sulfur from the copper sulfate occluded between its crystals, the copper after melting must be flapped to remove this sulfur. It follows that nothing would be gained by melting cathodes in an electric furnace. They can be melted in a tall cupola requiring no waste heat boiler and operating 24 hours; inexpensive to build and cheap to operate. The melted copper can be oxidized in the cupula bath, or after it is transferred to the electric furnace. It can be reduced after transfer to the electric furnace by addition of charcoal (no hydrogen) and then cast in stationary molds.

The gases in contact with the molten metal will be CO until all oxygen is removed and then CO₂. If all the sulfur found in commercial charcoal was absorbed by the copper, it would amount to 0.000001 per cent in the finished casting, which would not affect the product.

Some of the brass industry have recently adapted the electric furnace to their work. They melt the brass by electricity, which is expensive; and notwithstanding this we are given to understand that not only are their operating costs lower (when losses are considered) and that the highly skilled and mysterious melting is a thing of the past, but best of all, they can control the character of their product. They, too, had previously made no progress for centuries. From them we find that maintaining copper in a molten condition by electricity (after it is melted) is a relatively small cost.

Recently there has been developed a bauxite lining fused under an electric arc which, when used in these same brass induction furnaces, proved satisfactory in resisting the erosion of copper melted in them. The successful work by this new lining seems to pave the way for the adaptation of the electric furnace to the copper industry.

It has long been known that there are certain alloys of copper which possess very excellent physical characteristics, but to produce them in a furnace fired by commercial fuel was not feasible. The electric furnace removes all obstacles to this development. The steel industry produces in this way many alloys, each suited to its particular function. Judging from the prices we are all very willing to pay for the superior qualities of these steel alloys, this branch of the industry has not decreased its earnings.

Gypsum Plaster Board. (21c)—(U. S. Dept. of Commerce. Bureau of Standards. Circular No. 108, "Gypsum—Properties, Definitions and Uses." (3p) Pages 21. Size 7" x 10"). Gypsum plaster board is a board made of calcined gypsum which is used as a lath-and-plaster construction. It consists, essentially, of a thin layer of gypsum contained between two layers of paper. Plaster boards are 32 by 36 inches and vary in thickness from one-fourth to one-half of an inch. The gypsum contains wood fiber as an aggregate, which reduces its brittleness, so that the boards can be nailed directly to the studs. The surfaces of the boards are roughened, and the paper is not sized. This construction forms a good bond for the application of plaster.

Specification.—The following specification has been adopted as tentative by the American Society for Testing Materials and is recommended by the Bureau of Standards.

Definition.—Gypsum plaster boards are used as a sheet lath or base for gypsum plaster on walls, ceilings, and partitions on the interior of buildings.

Composition.—Gypsum plaster board shall consist of sheets or slabs composed of one or more layers of hydrated gypsum plaster, with or without fiber, reinforced on the surface with chip board or felt.

Thickness.—The thickness of plaster boards shall average not less than the following:

(a) Three-eighths inch thick, with permissible local variations of one-sixteenth inch, plus or minus, and the thickness at any point in the board shall not be less than one-fourth inch.

(b) Five-sixteenths inch thick, with permissible local variations of one-sixteenth inch plus or minus, and the thickness at any point in the board shall not be less than three-sixteenths inch.

(c) One-fourth inch thick, with permissible local variations of one-sixteenth inch, plus or minus, and the thickness at any point in the board shall not be less than three-sixteenths inch.

Dimensions.—(a) The width shall be 32 inches with a permissible variation of one-fourth inch less than the dimension specified, and the length shall be 24, 36, or 48 inches, with a permissible variation of one-half inch, plus or minus.

(b) Unless otherwise specifically stated in the order, plaster boards of the widths specified and, in lengths of 18 and 30 inches may be included in amounts exceeding 5 per cent of any single carload.

Weight.—The weight per thousand square feet of plaster board shall conform to the following:

(a) For three-eighths inch thick, not less than 1,500 nor more than 2,000 pounds.

(b) For five-sixteenths inch thick, not less than 1,250 nor more than 1,600 pounds.

(c) For one-fourth inch thick, not less than 1,200 nor more than 1,500 pounds.

Strength.—(a) Strength-test samples shall be 12 inches wide and approximately 18 inches long, and when tested shall be supported on parallel knife-edge bearings spaced 16 inches and loaded through a similar bearing midway between the supports.

(b) When tested as described, samples taken from the
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plaster boards shall carry not less than the following loads:

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The minimum acceptable strength shall be not less than 5 pounds below the averages given.

**NOTE.** The figures given above for five-sixteenths and one-fourth inch board have not yet been adopted by the A. S. T. M.

(c) Samples tested shall fail by rupture of surfacing and core, and not by the breaking of the bond between the surfacing and the core.

**Surfacing Material.**—The surfacing material shall be composed of plain chip board, felt, or other stock of the same character, which shall be securely bonded to the core and shall completely cover the larger surfaces, with a permissible variation of one-fourth inch at the edges along the shorter dimension.

**Finished Product.**—The surfaces shall be such that they will readily receive and retain gypsum plaster. The edges and ends shall be reasonably straight and solid. The corners shall be square, with a permissible variation of one-fourth inch in the full width of the boards. The boards shall be free from cracks and imperfections that will render such boards unfit for use.

**Packing and Marking.**—Gypsum plaster boards shall be shipped so as to be kept dry and free from injury. Each board shall be plainly labeled with the name of the brand and of the manufacturer.

**Inspection and Rejection.**—Gypsum plaster boards shall conform to the foregoing requirements and shall be tested as provided for when determining their strength. Plaster boards may be rejected upon failure to conform to any of the foregoing requirements.


Gypsum wall board is quite similar in construction to plaster board. Wall board, however, is not intended to be plastered, but the surface of the board forms the finished wall. Therefore, the surface of a wall board is smooth, painted, or glazed, as required by the manufacturer.

**Weight.** The weight shall be not less than 1500 nor more than 2000 pounds per 1000 square feet of wall board.

**Strength.** (a) Strength-test samples shall be 12 inches wide and approximately 18 inches long, and when tested shall be supported on parallel knife-edge bearings spaced 16 inches and loaded through a similar bearing midway between the supports.

(b) Such samples taken from the wall boards shall carry a load of not less than 80 pounds when the line of supports is at right angles to the direction of the fiber of the surfacing, and not less than 32 pounds when the line of supports is parallel to the fiber of the surfacing.

(c) Samples tested shall fail by rupture of the surfacing and core and not by the breaking of the bond between the surfacing and the core.

**Cores.** The cores shall consist of hydrated calcined gypsum plaster, to which may be added not to exceed 15 per cent by weight of sawdust or other vegetable fiber intimately mixed. Cores shall be of sufficient thickness to stain the core.

**Specification.**—The following specification was adopted by the American Society for Testing Materials and is recommended by the Bureau of Standards:

**Composition.** Gypsum wall board shall consist of sheets or slabs composed of a layer of hydrated gypsum plaster with or without fiber and a surfacing of chip or manila board on both sides.

**Thickness.**—The thickness shall average not less than three-eighths inch, with permissible local variations of three-thirty-seconds of an inch, plus or minus, and the thickness at any point in the board shall not be less than five-sixteenths inch.

**Dimensions.**—Where the wall boards are to be laid with joints butted, the width shall be 32, 36 or 48 inches, with a permissible variation of three-thirty-seconds inches, plus or minus. Where the joints are to be filled with joint filler, the width shall be $33\frac{1}{8}, 35\frac{1}{8}$ or $47\frac{1}{8}$ inches, with a permissible variation of three-thirty-seconds inch, plus or minus. The length shall be 4, 5, 6, 7, 8, 9, or 10 feet, with a permissible variation of three-eighths inch, plus or minus.

**Inspection and Rejection.**—Gypsum plaster boards shall carry a load of not less than 80 pounds when the line of supports is at right angles to the direction of the fiber of the surfacing, and not less than 32 pounds when the line of supports is parallel to the fiber of the surfacing.

**Cores.** The cores shall consist of hydrated calcined gypsum plaster, to which may be added not to exceed 15 per cent by weight of sawdust or other vegetable fiber intimately mixed. Cores shall be of sufficient thickness throughout to make the finished plaster boards conform to the specifications as to thickness of the finished product.

**Surfacing Material.** The surfacing material shall be composed of plain chip, manila, filled news, or other stock of the same general character containing sufficient sizing to meet the following conditions:

(a) Samples of the finished wall board shall sustain a static head of 1 inch of water (confined within a 2-inch ring on either of the surfaces of the board) for a period of not less than two hours without penetrating the surface sufficiently to stain the core.

(b) The surfacing material shall completely cover the two larger faces of the core and shall be securely bonded to it.

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XVII
There are products that have become known by certain trade-marks. A phonograph, a tooth paste, an adding machine—certain names leap instantly to mind when these commodities are mentioned. The trade-marks have become the guides to certain qualities that are at once associated with these names.

Lumber, timbers, and lumber products of a uniform high quality are manufactured by The Long-Bell Lumber Company. You should know these products. They may be identified by the Long-Bell trade-mark, the guide to lumber that is dependable and of a uniform high quality.

The Long-Bell Lumber Company
R.A. Long Building Lumbermen since 1875 Kansas City, MO.

Southern Pine Lumber and Timbers; Creosoted Lumber, Timbers, Posts, Poles, Ties, Piling and Wood Blocks; California White Pine Lumber, Sash and Doors, Standardized Woodwork; Southern Hardwoods, Oak Flooring.
Finished Product. The surface designed to be exposed on erection shall be true and free from imperfections with or without decoration. The edges and ends shall be straight and solid. Where wall boards are to be butted the corners shall be square with both side edges. In cases where the joints are to be filled, the joints shall be square with both side edges with a permissible variation of one-eighth inch in the full width of the boards. The finished product shall be dry and free from cracks and imperfections that would render such boards unfit for use.

Packing and Marking. Gypsum wall boards shall be shipped so as to be kept dry and free from injury. Each board shall be plainly labeled with the name of the brand of the manufacturer.

Inspection and Rejection. Gypsum wall boards shall conform to the foregoing requirements and shall be tested as provided for when determining their strength and water permeation. Wall boards may be rejected upon failure to conform to any of the foregoing requirements.

Calculation of the Lighting Installation. (31f1) 
(Bulletin L. D. 117, Lighting Data, Edison Lamp Works, Size 6” x 9” Pages 29.) There are two basic methods of pre-determining the illumination produced by a given lighting installation. The first is based on certain mathematical calculations depending upon the distribution and candle-power values of a lamp with its reflector equipment, and the distance of the source from the point where the illumination is to be determined. While this method is especially useful for determining the amount of light upon specified points, it necessitates many tedious calculations and does not take into consideration the light reflected from the walls and ceiling.

The second method is more convenient and is an absolutely reliable means of calculating an illumination problem, as it is based on the law of conservation. According to this law all of the light flux (lumens) produced by a source or sources of illumination in an enclosure such as a room, is absorbed by the illuminated surfaces in the enclosure. Calculations based upon this law, which is fundamental, must be accurate when the assumptions as to absorption, etc., are correct. A certain portion of the light is reflected back from the objects upon which it falls, such as the walls and ceiling, the remaining being absorbed by these surfaces. The percentage of the light which is reflected to the amount falling upon the surface is known as the reflection coefficient of the surface. This reflected light may again be reflected, and so on.

The useful light may be considered as that reaching an arbitrary working plane (say 30 inches above the floor), and knowing the light flux produced and the reflections of the walls and ceilings, etc., it is possible to determine the total lumens usable.

This would necessitate many measurements and mathematical computations to obtain the various reflection coefficients. Therefore, typical cases have been worked out and tables derived from them, which are found to be very convenient for designing an illumination layout.

In order to facilitate the work of laying out the proposed installation, which is rather cumbersome by some of the methods, a system of curves and tables has been developed, known in this bulletin as Method No. 3. The principles involved in the first two methods have all been taken into consideration in the new method, leaving only a substitution of values from the curves necessary for the one who is planning the lighting layout.


A Product Must Be Good When the President of a Busy Construction Company Will Stop His Work to Dictate an Unsolicited Acknowledgment of its Merits as President Winding Did of Master Mix.

The Master Builders Company,
456 Broadway, Milwaukee, Wis.
Wauwatosa, Wis, March 22, 1921,
Attention—Mr. F. Theilacker.

We feel it our duty, to write you, concerning our experience in using Master Mix for floor hardener, etc.

Before we started using Master Mix for the entire area of floor we conducted a series of tests. We would lay an area of floor, without the hardener and then we would lay an area of floor with the hardener in the same day’s pouring. We used this method three consecutive days, watching closely, day by day, the hardening of the floor, using a sharp tool and applying the same pressure to determine which was the harder. We found that the floor, which we used the Master Mix hardener in was by far, the hardest. Also that it set up a great deal faster, allowing us to get on to it for troweling, a good deal sooner. Therefore, decreasing the cost of finishing, overtime, etc., considerable. We also found that using Master Mix in freezing weather, by hastening the setting and preventing the freezing of concrete, was a great help to us, saving us considerable, as we did not have to heat material.

We would like to say a word in regard to the services rendered us thru your Mr. F. Theilacker. Mr. Theilacker gave our work his personal supervision. In other words, he acted as one of the crew, following the application of the hardener from the start to the finish, working in harmony with the Contractor in reducing the cost, by using the hardener as economically and yet as efficiently as possible.

The floor area, we have reference to, was a six inch monolithic floor, and by using Mr. Theilacker’s recommendation of striking off the floor to a true level with the rough concrete and then sprinkling with Master Mix, using a 1 to 1½ dryer, applied at two different times, floated and troweled hard, gave us a very hard and satisfactory floor.

If any other information is desired, we would be pleased to give same upon application.

Yours very truly,

The Master Builders Company
Union Building, Cleveland, Ohio
Sales Offices in 70 Cities
The Maintenance of Lighting Systems. (31f25)—(Bulletin 40, Engineering Department, National Lamp Works. Size 6" x 9." Pages 16.) The effectiveness of a lighting system depends largely upon its maintenance after installation. The design of fixtures and the character of the installation is influenced to a great extent by the question of maintenance. This bulletin emphasizes the importance of maintenance and shows that dirty reflectors, walls, and ceilings darkened by smoke and dust, blackened lamps, empty sockets, unobserved burnouts and replacements with lamps of wrong size or improper voltage rating are prime causes of inadequate illumination.

Store Lighting. (31f14)—(Bulletin 29, Engineering Department, National Lamp Works. Size 6" x 9." Pages 32.) A discussion of various types of lighting systems with suggestions and tables of particular application in store lighting problems. Actual problems are used to illustrate the method of application.

Incandescent Lamp Temperatures as Related to Modern Lighting Practice. (31f21)—(Bulletin 44, Engineering Department, National Lamp Works. Size 6" x 9") Pages 34.) This bulletin presents data obtained from tests on Mazda B (vacuum) lamps. The material presented is divided into four main parts: First—Temperatures of incandescent lamps operated without reflecting or diffusing equipment; Second—Temperatures of incandescent lamps operated with reflecting and diffusing equipment; Third—Ventilation vs. non-ventilation; Fourth—Suggestions on the use of incandescent lamps in interiors which present special temperature problems.

The data are aimed to clear up or show in proper relation much discussed questions regarding operating temperatures, interpretations of the National Electrical Code pertaining to lighting unit temperatures, use of lamps in dusty places, explosions due to lamp breakage, etc.

Factory Lighting Designs. (31f13)—(Bulletin No. 42, Engineering Department, National Lamp Works. Pages 48. Size 6" x 9") Illumination design involves somewhat tedious calculation when all the factors which exert an important influence on the final result are given proper consideration. In this bulletin is shown the application of general information and data to the design of overhead lighting systems for factories. Ready-made illumination designs are presented and these designs can be applied directly or with only slight alterations, to a wide variety of industrial interiors.

Lighting of the Clothing Industry. (31f13)—(Bulletin L. D. 133. Lighting Data. Edison Lamp Works. Size 6" x 9." Pages 20.) In this bulletin is given the result of an inspection of approximately 100 factories to determine the present practice in the industry. This is followed by a discussion of the general requirements for illumination and a description of the specific requirements for the various individual operations.


Erection of Steel Structures by Arc Welding. (13e)—(Proceedings of the Engineers' Society of Western Pennsylvania, Dec., 1921.) Electric arc welding of the structural steel framework in building construction presents no serious difficulties that have not already been encountered in the application of this process. The material to be welded has the same characteristics as that used in steel ship construction. Commercial welders in the principal harbors of the country have welded this material without difficulty for a number of years in making repairs to portions of the structure of steel ships.

Poultry Houses. (351)—(University of Montana—Agricultural Experiment Station. Circular No. 100, by W. F. Shoppe. Pages 23, size 6"x9". Illustrated.) Contents: Importance of hygiene; Systems of poultry housing; Location of poultry houses; Drainage; Soil for poultry yards; Principles of house construction; Ventilation; Moisture; Sunlight in the house; Height and width of house; Foundation; Floor; Roof; Straw lofts; Curtain front house.


Indiana World War Memorial

Notice to Architects

Not later than March 15, 1923, the Board of Trustees of the Indiana World War Memorial will receive at its offices in The Chalfant, N. W. Corner of Pennsylvania and Michigan Streets, in the city of Indianapolis, Indiana, competitive "designs, plans and specifications" for a World War Memorial to be erected in the city of Indianapolis at an approximate cost of $2,000,000.00. Full information in regard to the competition may be had by addressing PAUL COMSTOCK, Secretary.

The Chalfant, Indianapolis, Indiana.
To Architects:

A LOT of us manufacturers have received a great deal of correspondence of late advising us that architects are not at all interested in general claims as to the quality of wares advertised for their approval.

For instance, if we say that Humphrey Automatic Gas Water Heaters are the best in the world—as we do honestly believe they are—the mere unsupported assertion leaves you cold. You are swayed by neither eloquence nor reiteration. You want to know why.

That’s the best news we’ve had since the Armistice. For years these advertising chaps have been pleasing with us to keep crude technicalities out of our copy. We’ve kept mum about lots of interesting things we were just dying to tell. They wouldn’t let us. They were very unkind about it.

So now that the muzzle is off and we’ve actually been urged to talk Humphrey Heaters in our own homely, scientific way, we’re going to be just as cold-bloodedly technical as we please.

We announce herewith a course of Humphrey lectures, brief, snappy and wholly to the point, to be published month by month in this and other architectural papers.

We’ll take Humphrey Heaters apart and explain them to you in detail. We’ll tell you why a certain valve we’ve got is so simple and effective that competitors are waiting at the door of the Patent Office to get a chance at it. We’ll tell you about our thermostatic control and leave you to judge as to its superiority.

We’ll tell you how carefully Humphreys are made and then tested with such unfriendly violence that a single weak spot means total destruction.

We’ll tell you what you want to know in your own language, and all we ask you is to pay the attention due to age and a deep knowledge of our subject.

The text-book for the course is the Humphrey Architects’ Manual. It’s worth studying. Get your copy right away from

HUMPHREY COMPANY
(Div. Ruud Mfg. Co.)
Kalamazoo, Michigan
The difference in duty between a length of pipe covering and a strip of roofing is a broad one.

But when these materials are united by an unusual service to architects under the same manufacturer's name—Johns-Manville—it is not strange that this name appears many times in one set of specifications. In specifications for a building such as that above, it might well precede each of the following:

Asbestos Roofing, Wall Insulations, Acoustical Correction, Pipe and Boiler Insulations, Steam Traps, Radiator Traps, Industrial Flooring, etc.

If you wish particulars on any or all of the above products, write to:

JOHNS-MANVILLE Incorporated
Madison Avenue at 41st Street, N. Y. C.
Branches in 56 Large Cities

First National Bank Building, Omaha, Neb.

Architects—Graham, Burnham & Co.
Through a Sieve Woven Finer Than Silk

Portland cement, to meet the exacting specifications of leading engineering societies and the United States Government, must be ground so fine that at least 78 per cent will pass a sieve having 200 wires per linear inch. A silk handkerchief has but 110 threads per inch—an excellent quality of silk dress goods 187 threads.

The watch in your pocket hardly calls for a more complicated and carefully adjusted process of manufacture than the making of cement. Grinding is only one of the many operations required to make it. Yet in grinding alone, see what is required:

The rocks from the quarry, often as big as a piano and heavier, go first into a gigantic "coffee mill." It bites at these huge chunks, chips them, and finally crushes them—to pieces six inches or so in diameter.

Two finer mills follow, one after the other, reducing the stones to the size of coarse sand. After this, they must be ground in a great revolving cylinder half filled with steel balls, until every cubic foot of the rock has been reduced to 14 billion pieces—until 85 per cent of them will shake through a sieve that will actually hold water, a sieve with 40,000 holes to the square inch.

And all of this is less than half the necessary grinding. The coal must be ground. For the object of all this fine grinding of the raw materials is only that it may be fused into crystalline clinkers. And to fuse it requires pulverized coal—or its equivalent. Most plants use pulverized coal.

The coal must be ground as fine as the raw stone. Eighty-five per cent of it or thereabouts must go through the sieve that holds water. And that often means two grinding operations.

There is still the clinker to be ground. It is glass-hard to begin with. It must be ground first to the fineness of sand, and then ground and reground in another cylinder of steel balls—until at least 78 per cent of it will go through the sieve woven finer than silk.

Huge bowlders to an impalpable dust. Common coal to an impalpable dust, and finally, after the burning, glass-hard clinker to an impalpable dust. That is the making of cement. And eight heavy grinding operations are required in the process.

Grinding is only one of the lesser heat and power consuming operations in cement manufacture.

PORTLAND CEMENT ASSOCIATION
A National Organization
to Improve and Extend the Uses of Concrete
"Taking Pen in Hand—"

I might as well admit it! I don't know how to write ads—but I do know the plumbing business. The fellow who used to write our ads didn't know the plumbing business, so he just strung words like "quality" and "service" together and tacked our name on the end.

That isn't my idea of advertising. To me, advertising is just writing to the people I can't meet personally.

I want our ads to tell our story the way I tell it myself.

Therefore—I'm going to write some myself.

When I can get a plumber in our shop I don't have much trouble selling him on the advantages of Clow plumbing—what he sees does that for me.

But there are a lot of plumbers I can't bring to the shop. Therefore, I'm going to bring the shop to them.

I'm going to try my hand at writing an illustrated serial story! A personally conducted trip through our shop—from receiving room to the shipping platform.

Instead of saying that "Clow plumbing saves money on installation costs," I'll show you a picture of a man with an air chipping hammer, squaring up a tub to architect's detail, so that it will fit the opening like a foot in an old shoe.

Instead of talking about the "superior quality" of our brass goods, I'll take you through our brass shop, and leave it to you to judge.

I think this series will be worth reading. But, as I said, I'm no hand with the pen, and I'll be eternally grateful for suggestions.

W. B. Clow, Jr.

JAMES B. CLOW & SONS
General Offices: 534-546 S. Franklin Street, Chicago
Sales offices in the principal cities
XXVI BUILDING MATERIAL (Terra Cotta to to to toll)

DRIDGE

ETAIL of Doorway feature, the Wrigley Building, at the new Michigan Boulevard Bridge, Chicago. Oraham, Anderson, Probst & White, Architects. Lanquist & Illsley, Builders. This magnificent building is faced and trimmed on all sides from sidewalk to searchlight, with White Enamel Terra Cotta, manufactured and set by this Company.

THE NORTHWESTERN TERRA COTTA CO.

CHICAGO

INDUSTRIAL SECTION December, 1919 JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS
Engineering Tests Again Demonstrate Superiority of Southern Pine

In the series of tests just completed by the Testing Laboratories of the Department of Civil Engineering at Columbia University, Long Leaf Southern Pine again emerged the victor. The result of the tests is summed up in the following concise table:

<table>
<thead>
<tr>
<th>Coast type</th>
<th>Long leaf Pine</th>
<th>Short leaf Pine</th>
<th>Loblolly Pine</th>
<th>Douglas Fir</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strength as beam or post</td>
<td>100.0</td>
<td>84.0</td>
<td>83.5</td>
<td>85.0</td>
</tr>
<tr>
<td>Compressing 1 grain (flatwise)</td>
<td>100.0</td>
<td>80.0</td>
<td>92.0</td>
<td>88.5</td>
</tr>
<tr>
<td>Shearing grain</td>
<td>100.0</td>
<td>83.0</td>
<td>84.0</td>
<td>85.0</td>
</tr>
<tr>
<td>Shock-resisting ability</td>
<td>100.0</td>
<td>90.0</td>
<td>91.0</td>
<td>77.0</td>
</tr>
<tr>
<td>Stiffness</td>
<td>100.0</td>
<td>82.0</td>
<td>85.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Hardness</td>
<td>100.0</td>
<td>85.5</td>
<td>80.0</td>
<td>78.0</td>
</tr>
<tr>
<td>Weight (green)</td>
<td>100.0</td>
<td>100.0</td>
<td>108.0</td>
<td>80.0</td>
</tr>
<tr>
<td>Weight (air dry)</td>
<td>100.0</td>
<td>90.5</td>
<td>90.5</td>
<td>80.0</td>
</tr>
</tbody>
</table>

The holdings of Exchange Sawmills Sales Company are all in that belt in Louisiana where Long Leaf Southern Pine grows to its best. Southern Pine—the wood of a thousand uses—is available in any shape or size, is known for its workability, and can be secured at a reasonable cost. We give particular attention to items used in home building.

LONG and SHORT LEAF SOUTHERN PINE
Yard and Shed Stock | Heavy Structural Material
A mirror for balance

Is there a true lover of artistic achievement in home design who doesn't love the enchanting illusion of the mirrored door? First, the subterfuge of a puzzled architect, but now the artifice of artistic effect in planning interiors.

Seemingly something that it isn't, the mirrored door may add a witching air of mystery. It may hold the secret of balance essential to a restful room. It may compensate a window or a door, or break the tiresome space of blank walls.

A mirror is something more than merely an article of furniture to be hung up. Considered in the building of house or apartment, and in the hands of a skillful artist, it may play an important part in the architectural scheme.

Plate glass mirrors made in America are unsurpassed in brilliance, clearness and flawless perfection. They are made of selected plate glass silvered with the greatest care by skillful workmen.

Specify plate glass mirrors in bedroom doors, closet doors, bathroom doors, medicine-cabinet doors, over the mantel and paneled French doors. If properly installed, built-in plate glass mirrors will last the life of a house without discoloration. They are made for permanency.

A well-designed house, the pride of its owner and builder, deserves nothing less than plate glass in its windows. Its beautifully polished surfaces and crystal clearness make all the difference in the world in the external appearance of the house. Yet the difference in cost between plate glass and common sheet glass is surprisingly small. Get comparative figures from any glazing contractor or builder.
Consider These Facts When Confronted With Time Contracts

A time contract, with heavy penalty for delay, is the test of true service and strength. Contract for the Hibernia Bank & Trust Company building called for the following schedule:

"A crew of 25 stone setters to be employed at the building. Stone to be set at the rate of 2½ to 3 stories a week. The erection of 3 derricks for unloading of stone. Each derrick to be equipped with a searchlight so that unloading can continue uninterruptedly both night and day."

Again the Indiana Limestone industry was selected as the one best equipped to meet this exigency. From the limestone district 65,000 cubic feet of stone were shipped in 65 working days, and the stone set in the building at the rate of three stories a week. The entire contract was completed nineteen days ahead of schedule time.

The resources and facilities of this great industry enable architects and owners to obtain this service at all times.

Indiana Limestone Quarrymen's Association
Box 769 - Bedford, Indiana
Metropolitan Service Building, 622 Marbridge Building, New York City

Indiana Limestone
The Nation's Building Stone
Industrial Section
Journal of the American Institute of Architects
December, 1922
Another new chapter in an old story

There are many new details of architectural and engineering science in the plant of the American Sugar Refining Company just completed. But the heating is merely one more chapter in a very old story. Like so many other prominent important buildings throughout the world the plant is warmed by American Radiators.

American Peerless column radiators, totaling 4,000 feet, take care of the Administration buildings, steam being supplied from the exhaust of the central power plant.

In the warehouses, 8,000 additional feet of Peerless Wall Radiation are on duty. The remainder of the plant requires no heating system, as the machinery used in the processes of refining gives off sufficient warmth.

We welcome this distinguished addition to the list of plants where American Radiators are at work—a list which represents a roll-call of America's foremost industries.

Send for these two booklets

If you haven't these two authoritative booklets on direct radiation in your files, they are worth sending for. Just your name on your letterhead, sent to either address below, will bring them.

AMERICAN RADIATOR COMPANY
Ideal Boilers and American Radiators for every heating need

104 West 42nd St., Dept 115
NEW YORK

816 So. Mich. Ave., Dept 115
CHICAGO

Industrial Section

JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

December,
FIFTY gradeschools and nine high schools in Detroit are Carey roofed. Certainly this newest high school would not have a Carey roof if the fifty-eight others were not giving satisfaction.

They will give you the satisfaction they are giving Detroit.

There are Carey Asbestos and Asphalt built-up specifications for flat and irregular surfaces and Asfaltslate Shingles for exposed steep surfaces.

Write for Carey Architects Specification Book.

THE PHILIP CAREY COMPANY
507-527 Wayne Ave., Lockland, Cincinnati, Ohio
Branches and Distributors in Sixty Leading Cities
Another Jenkins Standardization
—what it means

There are many and obvious reasons why STANDARDIZATION OF JENKINS is true valve efficiency and economy—the six most distinct are:

1. An assured valve service—for Jenkins Valves have strength and proportioned parts to meet the most severe conditions.

2. Operatives can easily acquaint themselves with the simple construction of Jenkins Valves. They do not have to worry about the actions and peculiarities of valves of widely varied manufacture.

3. Reduced inventories of replacement parts, as it is not necessary to carry a scattered assortment of parts—just what is the case where valves of many and various makes are used.

4. Parts are interchangeable, made so carefully and standardized that “Veteran” valves can always be supplied with parts that “fit.”

5. Nation-wide distribution, through supply houses everywhere, carrying Jenkins Valves and their parts in every locality.

6. Money is saved, for Jenkins Valves go into service and stay—a quality, alone, would make them the most economical.

Jenkins service can only be expected from genuine Jenkins Valves—specify Jenkins “Diamond” Valves and avoid imitations.

JENKINS BROS.
New York Boston Philadelphia Chicago
Montreal
FACTORIES: Bridgeport, Conn.;
Elizabeth, N. J.; Montreal, Can.

Jenkins Valves
SINCE 1864

Jenkins Valves, and Jenkins Only, are installed throughout the new First National Bank Building, Jersey City.


Fig. 106, Standard Brass Globe Valve, one of the many types of Jenkins Valves used.
A Steel, "Hand Tailored" Boiler

Each and every Kewanee Boiler is a "hand tailored" boiler. Each boiler is cut out individually, from accurate steel patterns, and each rivet is individually driven with tremendous hydraulic pressure.

Each piece of steel plate that goes into a Kewanee Boiler is carefully selected. And after the boiler is built it is given a pressure test far in excess of any pressure at which it will ever be operated.

The result of all this is unquestioned strength and durability. We don't know how long Kewanee Boilers will last—we have only been making them 30 years.

Kewanee Boiler Company
Kewanee, Illinois

Steel Heating Boilers, Radiators, Tanks, Water Heating Garbage Burners

Branches:

Chicago, Washington and Market Sts.
New York, 47 W. 43rd St.
Des Moines, 315 Hubbell Bldg.
Kansas City, 2014 Wyandotte St.
Indianapolis, 500-10 Occidental Bldg.
St. Louis, 1212 Chemical Bldg.
Minneapolis, 708 Builders Exchange
Columbus, 808 First Nat'l Bank Bldg.
Salt Lake City, 204 Doly Bldg.

Canadian Representatives—The Dominion Radiator Co., Ltd.

Toronto, Ont., Montreal Que., Winnipeg, Man.
Hamilton, Ont., St. John, N. B., Calgary, Alta.
THE ROOF

Are you giving it due consideration?

In any structure the ROOF is an important feature.

IMPERIAL
SHALE ROOFING TILES

Properly chosen, will give to any building an air of distinction, harmony of color tones, everlasting properties.

LUDOWICI-CELADON COMPANY
104 SOUTH MICHIGAN AVENUE
CHICAGO, ILLINOIS
said an architect to a Byers salesman. "I never attached much importance to the subject until a pipe, buried in my living room ceiling, burst and did $3,000.00 worth of damage to floors, walls, draperies, rugs and furniture. From what I have since found out about pipe, I have decided to allow no clients of mine to be quite as foolish as I was myself. From now on I will specify Byers pipe for all permanent buildings."

Even leaving out of consideration this possible damage to the building and furnishings, the cost of pipe failures is ten or twenty times greater than the bare cost of pipe itself. And the extra cost of Byers rust resisting pipe measured against the installation cost is only 5 to 10%.

(See Diagram). And this small amount is the means of greatly increasing the life of the installation, reducing maintenance cost, and preventing serious damage to the building and its contents.

Send for Byers Bulletin No. 38 "The Installation Cost of Pipe"

A. M. Byers Company - Pittsburgh - Pa.
Established 1864

New York Philadelphia Boston Chicago Cleveland Houston Tulsa Los Angeles

Look for the Name and Year rolled in every length
Granite - The Noblest of Building Stone

The Time-Saving Ash Removal!

Previously, it required two whole days to remove the accumulation of ashes. Now, with the employment of fewer men, the ashes are removed in five hours.

An interesting booklet is available upon request.

This Model D Electric Hoist is used for ash removal at the Conley Tin Foil Co., New York. Francisco & Jacobus, Architects and Engineers.

Investigate this modern method of ash removal. When writing, please tell us the height of lift, the type of material removed, and the location of the driveway.

A rough sketch will help.

For scaled drawings and specifications, see Sweet's, pp. 2007-2015, or the G & G October 1921 catalogue.

Flanking the entrance of the Guaranty Trust Company's Fifth Avenue offices are exquisite examples of granite carving. York & Sawyer, Architects.

Granite and Architectural Environment

Although hand work is required to finish practically every piece of architectural granite, modern tools have made it possible to execute fine carving within reasonable time and cost.

Granite may now be carved with as much fineness as marble, with the added advantage that it will retain its sharpness indefinitely.

We would be pleased to confer with you any time about the possibilities of carving in granite. Or send you a booklet now of valuable information about the detailing and specifying of granite.

National Building Granite Quarries Association, Inc.

31 State Street, Boston, Mass.

H. H. Sherman, Secretary
CRITTALL

Steel Casements

for substantial, artistic buildings

Made in varied designs
to meet all conditions

CRITTALL CASEMENT WINDOW CO., Manufacturers,—DETROIT

THE CHURCH INTERIOR

Sheer beauty of plan and design in the building of churches is of recognized importance—for beauty endows wood and stone with new life and priceless inspiration.

In the adornment of the church interior with beautifully carved wood, the movement toward beauty as an expression of the soul's aspiration finds its most intimate development.

In serving the churches of the present day, it is our ideal to emulate the finest traditions of the wood carving art of the past. Our Wood Carving Studios are especially equipped to design and execute memorials, or special fitments for the church interior.

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Minutes

MEETINGS OF EXECUTIVE COMMITTEE, SEPTEMBER 8, 9, 1922

Members present. The meeting was called to order by President Wm. B. Faville, at the Green- 
wich Country Club, Greenwich, Connecticut, at 1:30 P.M., on September 8, 1922. Others present 
were the Second Vice-President, Robert D. Kohn; the Secretary, Wm. Stanley Parker; the Treasurer, 
D. Everett Waid; and N. Max Dunning; also the Editor of THE JOURNAL, Charles Harris Whitaker, 
and the Executive Secretary, Edward C. Kemper.

Minutes corrected and approved. The Minutes of the meetings of the Executive Committee 
and Board of Directors held on June 4, 5, 6, 9, and 10, 1922, were presented. A reading was dispensed 
with, and the Minutes were approved as printed.

Distribution of the Proceedings and Annuary. The Secretary reported that the Proceed-
ing of the Fifty-fifth Convention, and the Annuary, 

were mailed to the entire membership, under a single 

wrapper, between August 1 and August 4, less than 

sixty days after the Convention. By careful editing 
of the Proceedings in the interest of brevity, and by 

mailing the two books in single packages the weight 

was reduced to one pound, effecting a saving in postage of $133.00 over the distribution of 1921. 
The Proceedings and Annuary were also sent to all 

Honorary and Honorary Corresponding members. 
The Proceedings alone were sent to 66 national or 

regional associations having to do with the building 

industry; also to all members of State Societies who 

desired them. Surplus copies of the Proceedings will 

be used for library distribution, and as a reserve at 

the Octagon.

Report of the Treasurer. The Treasurer 
reported the financial condition of the Institute, and 

receipts from all sources, to be generally satisfactory 

for the period ending July 31, 1922. The securities 

have been transferred from Washington to New 

York, and tentative arrangement has been made for 

placing them in a safe deposit box subject to inspec-

tion in the presence of the Treasurer, and one other 

Officer or Director.

Convention refund balance. The balance 

remaining after paying all Chapter refunds is 

$1,570.70. The adjustment recommended for the
San Francisco Chapter will reduce this balance to $1,155.62. The Treasurer recommended that this be turned back to the Chapters.

Resolved, that the balance of $1,155.62 be distributed to the Chapters in proportion to the taxes paid by them.

Trustees of Octagon Property. In view of the amended Constitution of the Institute, the following resolution was adopted:

Whereas, the Fifty-fifth Convention amended the Constitution of the Institute to conform with the original certificate of incorporation, and with the amended articles of incorporation, as granted by the State of New York; and authorized the filing of an amended certificate of incorporation to cover the matter of the change to fourteen directors and

Whereas, this certificate has now been filed and the Institute is therefore in a position with safety now to take title and actual possession of its own property until now held by trustees, be it

Resolved, that Counsel be requested to draft a resolution for action of the Fifty-sixth Convention making such transfer effective, and

Be it further Resolved, that the Secretary be requested further to submit to the Membership notice of an amendment to the By-laws, providing that thereafter no Real Estate possessed by the Institute may be sold or transferred without two-thirds majority vote of all legally appointed delegates at a legally called meeting of the Institute, due notice of proposed action on the subject having been given at the last preceding regularly constituted annual meeting of the Institute and in no case shall there be less than six months such notice.

Convention Refund of San Francisco Chapter. A letter was presented from the San Francisco Chapter requesting that the Chapter receive the full refund of $619.71 instead of $204.63. This request was based on the attendance of Mr. Faville, who was registered as a delegate ex-officio instead of as a delegate of the San Francisco Chapter.

Resolved, that the Treasurer be authorized to consider Mr. Faville a delegate of the San Francisco Chapter, with reference to the matter of Convention Refund, and to remit to the Chapter on a basis of a total refund of $619.71.

Convention Tax of the Illinois Chapter. A letter of July 31 was read from the Secretary of the Illinois Chapter, from which it appeared that the Chapter was entitled to 8 delegates to within 24 hours of the opening of the Convention. Election of new members at the last minute gave the Chapter an additional delegate, and on the strength of this, Mr. C. Herrick Hammond was registered. This made an additional Convention tax of $41.59 against the Chapter, which the Treasurer recommended be cancelled.

Resolved, that this additional tax be cancelled.

Institute Memberships in the Beaux Arts Institute of Design. Consideration was given to the resolution of the Convention referring to the Board the recommendation of the Committee on Education that the Institute subscribe annually to ten supporting memberships of $25.00 each in the Beaux Arts Institute of Design. In the discussion of this matter, it was brought out that there are many similar educational institutions in which the Institute maintains no memberships. It was

Resolved, that each year there be placed at the disposal of the Beaux Arts Institute of Design a School Medal and a copy of Mont St. Michel and Chartres, to be awarded for general excellence in the architectural course; and copies of Mont St. Michel and Chartres for award in courses other than those architectural.

League of American Artists. Letter and circular were presented from the League of American Artists, appealing for the membership of the Institute, the cost of which is $10.00 per year.

Resolved, that the request be referred to the Committee on Allied Arts for report.

Clearing House of Civic Information. The Secretary reported concerning the appeal of a special committee of the American Society of Landscape Architects for Institute cooperation with the International Union of Cities, and its Center of Civic Documentation. The activity proposed is an investigation or compilation of relevant bibliography in the Library of Congress at Washington. The Institute was requested to make a contribution of $50.00 which, with the approval of the Treasurer, was made.

The Treasurer desired the formal approval of the Executive Committee, which was given.

Overdrawal of Appropriations. The Treasurer requested authority to pay an overdrawal of $150.17 on account of the Public Information Committee. The larger part of this overdrawal was incurred in connection with the publication of the brochure entitled "Publicity Work with Newspapers." Other appropriations overdrawn are: Competitions, $31.90; Allied Societies' Dues, $3.00; Small House Committee, $31.47.

Resolved, that the Treasurer be authorized to pay these overdrawals.

Sales of the Standard Documents. The Executive Secretary reported a constantly increasing demand for the Standard Documents. The new documents are being advertised in the leading architectural publications of the country, and by circularization. There are now 135 agents in the large cities. Users in the small towns are supplied direct
from the Octagon House. The net profits on the
Documents after deducting all manufacturing and
distribution costs, for the eight months ending
August 31, amounted to $5,023.62.

The report was accepted.

ELEVENTH INTERNATIONAL CONGRESS OF ARCHI-
TECTS. The Convention referred to the Board of
Directors, with power to act, the invitation of the
American Section of the Permanent Committee of
the International Congress of Architects to appoint
debates to the Tenth Congress, and to hold the
Eleventh Congress in America under Institute
auspices. Acting under this resolution, President
Faville appointed the following Institute members
to act as delegates at the Tenth Congress, now being
held in Brussels: Major George Oakley Totten,
Chairman, and Messrs. Francis R. Allen, Glenn
Brown, W. R. Mead, Robert D. Kohn, members.
Major Totten is now at the Congress, which will
conclude its sessions on September 11th.

The Executive Committee then considered the
question of inviting the Eleventh Congress to meet
in the United States. A report from Major Totten
was presented, showing the cost of previous Con-
gresses and attendance.

Resolved, that the President be authorized to cable
the Institute Delegates, expressing the hope that
the International Congress will find it possible to
arrange to meet in the United States in Philadelphia,
in 1926, in connection with the Exposition celebra-
ting the 150th Anniversary of the Declaration of
Independence.

PARTICIPATION IN INTERNATIONAL ENGINEERING
CONGRESS. An invitation was presented from
officials of the Engineering Congress to send repre-
sentatives to the Congress; also letter of August 16,
from a joint committee of Engineers, stating that
Mr. Calvin W. Rice would attend the Congress as
an official delegate of the Engineering Societies and
that he would gladly represent the Architects also,
if the Institute desired.

Resolved, that a cablegram be sent to Mr. Rice,
extending the greetings of the American Institute of
Architects to the Congress.

REPORT OF THE BUILDING COMMITTEE. The
Chairman of the Building Committee, Mr. Waid,
submitted a report of progress concerning the
development of the Octagon property; also tentative
plans for the proposed auditorium and exhibition
rooms. These plans were studied and criticized by
members of the Committee and left with the Chair-
man for further report at the December meeting.

The Chairman requested authority to amend and
reprint the circular descriptive of the Octagon
property. The edition is exhausted and there are
many requests for the document.

Resolved, that the circular be reissued as outlined
by Mr. Waid.

REPORT OF THE SMALL HOUSE COMMITTEE. A
report of progress was submitted from the Chairman
of the Small House Committee, Mr. E. H. Brown.

The Secretary was requested to transmit to the
Chairman of the Committee the sense of the meet-
ing with regard to the various proposals contained
in the report, and to ask for a further report at the
December meeting of the Board.

APPOINTMENT OF DIRECTORS OF THE SMALL
HOUSE SERVICE BUREAU. The President reported
that with the concurrence of the Executive Com-
mittee, he had appointed the following to represent
the Institute as Directors on the Board of Directors
of the Small House Service Bureau, Incorporated:
Edwin H. Brown, F. M. Mann, Sullivan W. Jones,
Charles A. Favrot, Robert D. Kohn.

PUBLIC INFORMATION. On invitation, the Chair-
man of the Public Information Committee, Mr.
John V. Van Pelt, appeared before the Executive
Committee, and reported concerning the develop-
ment of the program of Public Information work
proposed by his committee.

Circular on Architectural Service. The Committee
was authorized to proceed in drafting such a docu-
ment. The Chairman was requested to write to
the Chapters stating that this is being done by the
Institute, and suggesting that they await the ap-
pearance of the Institute form before issuing local
documents.

Institute Handbook of Information. The Com-
mittee was authorized to proceed with this docu-
ment, submitting draft to the Board for approval.

Public Information to Chapters. This service
should be conducted largely through the columns
of THE JOURNAL.

Newspaper Work. The Chairman referred to the
achievement of Mr. Parker in Boston with the
Christian Science Monitor, and its possible develop-
ment in the Chapters. He believed this to be the
fundamental point of attack, and the most important
item of all. To make it effective he proposed to
establish a mat service, for distribution through
the Office of the Secretary, and to develop its use
in all of the Chapters.

Resolved, that the report of the Committee be
approved in principle, with the direction that a
meeting be held each month for coordinating certain
phases of the work. This meeting is to be attended
by the Chairman of the Committee, by the Editor
of THE JOURNAL, and by the Executive Secretary.

THE AMERICAN CONSTRUCTION COUNCIL. The
Chairman of the Committee on Industrial Relations,
Mr. Kohn, reported the organization of the Ameri-
can Construction Council in Washington in June.
The Institute was represented by delegates and, under authority given by the Convention, has accepted membership in the Council. The Council is endeavoring to secure a representative membership, and the work in general is progressing.

STRUCTURAL SERVICE. The Chairman of the Structural Service Committee, Mr. Jones, conferred with the Executive Committee concerning the development of the structural service work of the Institute. He reviewed the activities of his Committee, and the organization of the Producers' Section.

There was comprehensive discussion of the desirability of creating a Consumers' Section, to have a membership composed of architects, engineers, contractors, owners, and other individuals using building materials.

It was the sense of the meeting that the organization of a Consumers' Section was desirable, and the Committee was requested to present a plan therefor to the Board in December.

After further consultation with Mr. Jones, the President accepted his resignation as Chairman of the Structural Service Committee, and appointed him Technical Director of the Structural Service Committee.

The President then appointed Mr. Stephen F. Voorhees, Chairman of the Structural Service Committee, subject to acceptance. Resolved, that the Structural Service Committee, in consultation with the Technical Director and the Editor of The Journal, be requested to make an investigation and report to the December Board on the technical organization of the Structural Service Committee and its related activities and a plan for the financial support of this work.

INVESTIGATION OF WOOD PRESERVATIVES. A communication was read, from the Chairman of the Structural Service Committee, in which he recommended officially by the Institute. In view of the growing favor with which the size 7½" x 10¾" is regarded, the Institute is willing to sanction variations toward that smaller size as a minimum.

The present Circular on the subject is to be re-issued in accordance with the above.

INSTITUTE REPRESENTATIVE ON CENTRAL COMMITTEE ON LUMBER STANDARDS. A letter was presented from the Secretary of the National Lumber Manufacturers' Association, requesting that the Institute appoint a member on the Central Committee on Lumber Standards. The Institute was represented by Mr. E. S. Hall, member of the Structural Service Committee, at the preliminary meetings which led to the organization of this Committee. There was presented the verbatim report of the July conferences.

Resolved, that with the approval of the Chairman of the Structural Service Committee, Mr. Hall be appointed as the representative of the Institute.

UNIFORM GOVERNMENTAL CONTRACTS. The Secretary reported a request from the Budget Bureau for Institute aid in developing uniform contracts to cover structural work, and also the furnishing of materials. The object of the Budget Bureau is to reduce red tape, and to secure for the government the same consideration as is secured by private firms. The proposed documents and other data from the Budget Bureau have been considered by the Committee on Contracts, of which Mr. Morris is Chairman, and a draft of letter to Institute Chapters was submitted for approval.

Resolved, that the letter be approved.

UNIVERSAL CONTRACT FORMS. Mr. Parker reported concerning Institute cooperation with the engineers, contractors and other representatives of the building industry, in developing universal contract forms. Another conference will soon be held in Washington.

The Secretary desired instructions as to the attitude of the Institute. He outlined the proposed forms, and explained their development and scope.

Resolved, that the Executive Committee heartily favors cooperation with the various elements of the Building Industry in the preparation of universal contract forms. For the time being the Institute reserves decision as to whether or not it will change its own forms, in the meantime observing the acceptance and value of such universal documents as may be developed. It was further

Resolved, that the Institute cooperate with the other interests of the industry by contributing the subject matter of the Standard Documents, on the understanding that the name of the Institute will be joined in the copyrighting of any new forms; that it will have a proper share in the control of such forms;

Resolved, that the size 8½" x 11" seems to be the most desirable, and shall remain the size recom-
and that no use of the Institute’s Standard Documents shall be made, which in the opinion of Counsel will or might impair its copyright privileges.

**WORK OF THE JURY OF FELLOWS.** The President reported the organization of the Jury of Fellows under the By-Law amendment adopted by the Convention. Past-President, John Lawrence Mauer, has accepted the Chairmanship, and the Office of the Secretary has been placed at his command in connection with the work involved.

Mr. Kohn urged early action by the Jury, in view of the past delays and the expectation of the membership of definite nominations at the next Convention. The Committee understands that progress of the Jury’s work to that end is being made, and that an early notice to the Chapters is to be issued.

**CONVENTION INVITATION OF COLORADO CHAPTER.** President Faville presented a letter of June 15, from Mr. William E. Fisher, of the Colorado Chapter, strongly urging that the next Convention be held at Colorado Springs.

It was the sense of the meeting that the next Convention ought to be held in Washington, and that a Board Meeting should be held in Colorado at an early date.

**THE FIFTY-SIXTH CONVENTION.** There was discussion of the time and place of the Fifty-sixth Convention, and the general program. The Executive Secretary was directed to make inquiry concerning hotel headquarters, the use of the Corcoran Art Gallery, and a suitable place for the dinner.

The question of an architectural exhibition, or an exhibition of the Fine Arts, was considered. Mr. Kohn was requested to report to the December Board on this item.

With regard to the general program, it was the sense of the meeting that one day should be devoted to a discussion of the relationship of sculpture and painting to architecture. There might also be a discussion of the relative importance of the artistic and the practical sides of the profession.

It was suggested that the Gold Medal be presented to Mr. Bacon on the steps of the Lincoln Memorial on the last day; and that each Chapter carry a banner at this ceremony, with an appropriate device thereon. To develop this idea, a committee was appointed with Mr. Howard Greenley, Chairman, and Messrs. Monroe Hewlett, and D. Everett Waid, members. The Committee is requested to study and report, and to order banners with blank fields, in which the Chapters may insert their own devices. The Treasurer was authorized to pay for the same, subject to reimbursement by the Chapters. These banners should be sent to the Chapters well in advance so that all may be represented.

There should be provided banners for the Institute at large, for the sculptors and mural painters, and for the departments of architecture in the accredited schools.

It was decided that there should be a dinner at the conclusion of the Convention, with some form of entertainment to make the affair original and interesting. Mr. Kohn was requested to report on the entertainment feature.

The President asked each member of the Committee to send to him within thirty days their suggestions for making the Convention truly architectural in character. It was suggested that the morning sessions of each day should be devoted to business, and the afternoon and evening sessions to the art of architecture.

**GOLD MEDAL ORDERED.** The Chairman of the Committee on Allied Arts was requested to have made the Gold Medal of the Institute, for presentation to Mr. Henry Bacon at the Fifty-sixth Convention.

**CRAFTSMANSHIP AND FINE ARTS MEDALS.** With regard to the two gold medals awarded by the Institute for excellence in craftsmanship, and in the Fine Arts related to architecture, a review of the creation of these medals and the awards was presented. Some confusion has arisen as to nomenclature, and it was

Resolved, that the memorandum submitted be approved as the authentic record of these two medals of the Institute, which are to be known as the Craftsmanship Medal and the Fine Arts Medal.

**SYMBOL FOR ARCHITECTURE.** The Secretary read a letter from the Librarian of the University of Washington Library at Seattle, requesting that the Institute send a copy of any seal, emblem or device employed by the A. I. A. which might be used in the University's new Library building as a symbol of the profession of architecture.

Resolved, that the Institute seal be sent, with a suggestion that the Institute would appreciate the opportunity of seeing a sketch showing how the seal is to be used.

**REQUEST OF MANCHESTER SOCIETY OF ARCHITECTS FOR LECTURER.** A letter of August 21st was read from the President of the Manchester Society of Architects, asking if some arrangement could not be made whereby the Society and the Manchester University might have some American architect give a lecture during the winter season at the University.
The Secretary was requested to endeavor to find through the larger Chapters, some member willing to accept this commission.

STATE AND MUNICIPAL ARCHITECTS. At the Pre-Convention Board meeting it was directed that the question of determining a policy with respect to the appointment of State and Municipal architects be referred to the incoming Board, with the suggestion that a Committee be appointed to study the whole situation and submit recommendations.

Resolved, that a special committee be appointed with Mr. D. Everett Waid, Chairman, and Mr. Robert D. Kohn, member. The Committee was requested to formulate a statement of Institute policy in this matter for discussion at the December meeting. The Chairman was authorized to add members to the Committee if he desires.

ISSUANCE OF SCHEDULE OF CHARGES. The Secretary reported that the amended Schedule of Charges was reissued immediately after the Convention as A. I. A. Document No. 177. The revisions were those proposed by the Committee on Contracts, and approved by the Convention.

The document was approved, and it was directed that it be distributed to the membership as a part of the Ethical Documents Monograph.

AMENDMENT TO CIRCULAR OF ADVICE. The Convention approved in principle the addition, to paragraph 4 of this document, of a second paragraph concerning competition in price, and an amendment to the first paragraph, and referred the phraseology to the Board for editing.

Resolved, that the phraseology of the amended paragraph be referred to Messrs. Kohn, Parker, Waid and Morris, with power.

AMENDMENTS TO CONSTITUTION. The Chairman of the Committee on Legal Matters, Mr. Kohn, reported that he had information to the effect that the amended certificate providing for the change in the number of Directors to 14, from 9 as provided in the original Charter, had been filed with the Secretary of State at Albany, New York, and copy filed in the County Clerk's office, New York County, by Messrs. Brownlee and Shafer, Attorneys acting for the Institute. He reported further that the Attorneys held that it was not necessary to secure legal action; that it was within the power of the Institute to make this change without making record of it in the office of the Secretary of State.

Resolved, that the report be accepted.

AMENDED CONSTITUTION AND BY-LAWS. The Secretary presented, in proof form, Constitution and By-Laws as amended at the Fifty-fifth Convention, including a new Article III providing a Junior class. This Article has been approved in principle by the Board of Directors. Resolved, that the document be approved and issued to the membership as A. I. A. Document No. 179, after approval as to details by the Secretary.

HANDBOOK OF ARCHITECTURAL PRACTICE. The Editor of THE JOURNAL stated the intention of the Press to republish the Handbook of Architectural Practice and he desired authority from the Executive Committee for certain minor changes.

Resolved, that the matter be referred to the Secretary and the Editor of THE JOURNAL to discuss, and to draft specific proposals which can go to the Executive Committee for approval by referendum.

JUNIORSHIP CIRCULAR AND APPLICATION FORM. Draft of circular, and application form, concerning Juniorship, was presented for approval. This document was in accordance with the amendments made to the By-Laws at the Fifty-fifth Convention, and has been approved in principle by the Chairman of the Committee on Survey of Institute Methods.

Resolved, that the document be left with the Secretary for approval and issuance.

GRADUATE SCHOLARSHIPS IN ARCHITECTURE. Consideration was given to the resolution passed by the Convention approving the use of the income of the Waid Education Fund for the stimulation of the general appreciation of the Arts, and for the support of graduate scholarships in architecture, in such manner and degree as the Board may approve.

Resolved, that the Committee on Education be requested to submit its further advices on this proposal.

THE ARCHITECT AS A CITY PLANNER. The Convention resolution referring to the Board of Directors, the desirability of formulating a definition of city planning for submission to the next Convention was considered.

Resolved, that this be referred to the Committee on Community Planning for report.

MEMBERS ELECTED. The Secretary reported the election of new members effective June 3, June 10, and August 5, 1922. These lists have been published in THE JOURNAL, and are not included herein.

The meeting adjourned at 3 p.m., Saturday, September 9th.